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THE AMERICAN JOURNAL OF PHARMACY

AUGUST, 1919.

EDITORIAL.

PROPRIETIES IN ADVERTISING.

The address of Mr. Burwell S. Cutler on "Commercial Ethics," reprinted in this number of the AMERICAN JOURNAL OF PHARMACY, is but another evidence of the moral code that is becoming more thoroughly developed and more firmly established in the business world. The thoughtful and progressive merchant, whether engaged in foreign or in domestic commerce, must have observed the improved moral tone, the distinct advancement of ethical principles, the elevation to a higher plane that has marked the recent trend of thought and actions of business men. This is equally true of those associated with large enterprises, the men of big business, as well as those associated with merchandising in a retail way or in comparatively small industries. It appears as another hopeful sign of the community of interests, the brotherhood of men, and the practical application of the golden rule.

It may be true that, to a certain extent, and especially in certain trades, the changes noted are traceable to compulsion, the constraining influences of certain legal enactments such as the Food and Drugs Act, the Sherman Anti-trust Law, and The Federal Trade Commission Act. Without minimizing in the least, the educational and moral effect that these acts and their application may have had in correcting certain trade evils, the writer is of the opinion that the great determining factor of the moral uplifting of business is the growth of the American ideals of fairness, of uprightness, and justice. The majority of American merchants need no law to teach them the principles of honorable dealings and would scorn the statement that the old adage "caveat emptor" had any relation to or significance in their trade.

One of the encouraging signs of the times and of the sensitiveness of trade organizations to the ethics of commerce, is the promptness with which any digression from either the unwritten law or the established rules of "fair trade" is recognized and objected to.

An incident that well illustrate this point was the action taken at the recent annual meeting of the Pennsylvania Pharmaceutical Association in the unanimous adoption of the following resolutions.

WHEREAS the Bayer Company, proprietors of Bayer's Aspirin tablets, is making a practice of publishing advertisements in the daily papers of this country in which the following statements appear:

"Don't Buy Aspirin in a Pill Box."

"Fake Aspirin was Talcum," underneath which appears the picture of a man holding his hand up to the druggist and saying, "You can't hand me any substitute for the true, genuine Bayer's Aspirin" which statement is followed by a question: "Haven't you heard?" "A Brooklyn Fraud is in jail for flooding the country with millions of counterfeit tablets. He labeled them Aspirin, but they were Talcum Powder!" and

WHEREAS the apparent object of these advertisements is to plant in the public mind the belief that every druggist who sells other brands of aspirin than Bayer's is dishonest, which, if this belief should become fixed in the public mind permanently, injurious results would be produced to the business of retail druggists, therefore be it

Resolved, that the Pennsylvania Pharmaceutical Association in regular annual meeting assembled, does hereby most earnestly protest the employment of such advertising and calls upon the Bayer Company to henceforth refrain from publishing the advertisements herein objected to or any others which tend to discredit the retail druggist in the public mind, and

Resolved, that the members of this association should refuse to sell any more Bayer Aspirin Tablets than are called for so long as the Bayer Company persists in employing such outrageous and insulting advertisements, on the ground that the Bayer Company does thereby place the distribution of its products outside the channels of self-respecting and honest druggists, and be it still further

Resolved, that a copy of these resolutions be sent immediately to the Bayer Company, and to each state pharmaceutical associa-

tion with the request that the latter take action and protest against the aspersion cast on all retail druggists by the Bayer Company through the aforesaid advertising."

An advertiser is justified in extolling the virtues of his own product and by every legitimate means endeavoring to command the attention of the public to the article that he is commending. He is not warranted, however, in his advertisements in decrying the products or in defaming the character of his competitors. The proprieties of advertising are being evolved and the advertising pages of our leading journals and magazines give evidence of the improvement in taste and the ethics of business that mark this phase of commercial enterprise.

The AMERICAN JOURNAL OF PHARMACY has rigidly maintained its standard and questionable advertisements have been censored or declined, and we believe that our strict adherence to the proprieties that should be observed in the advertising pages of an ethical and scientific journal as well as in its editorial columns and published articles, has added materially to the recognized standing of the JOURNAL and the value of its service to its advertising patrons.

The advertisement that was so properly objected to by the Pennsylvania pharmacists is the same obnoxious style that some twenty years or so ago, was very extensively employed by the representatives of certain German patented medicinal chemicals in foisting their products upon the American consumers at fabulous prices.

It was particularly objectionable because of its wide publicity in the newspapers of the country, thus spreading before thousands of readers a reflection upon the druggists of the country; an aspersion that was not applied to any persons who may have engaged in the criminal practice referred to in the advertisement, but gave the impression that it was applicable to the entire vocation of pharmacy. It is exceedingly unfortunate that the American firm who, by virtue of the sale of the German-controlled company by the Alien Property Custodian succeeded to this business, should have committed the error of continuing the Hun method of advertising.

As a corollary of our proposition that there has developed a distinct code of ethics among our business men and that this is progressive and is founded upon principles of honor and upright-

ness we are pleased to publish the following quotation from the reply of the Bayer Company, Inc.

"We are naturally very sorry to learn that your organization has taken exception to some of our recent advertising, and we take pleasure in informing you that the particular copy complained of has been discontinued. It is unnecessary to say that we are desirous of retaining the good will of all retail druggists, as we recognize the fact that they are a necessary link in the chain of distribution of our merchandise, and we consider their interests as identical with our own.

"In our opinion no class of business men are more deserving of the respect of the public, but we feel sure that you will agree that there are exceptions to this rule. This is made evident by the fact that the president of the Verandah Chemical Co., of Brooklyn, who manufactured and marketed what they chose to call 'Aspirin,' was recently sentenced to the penitentiary because his company had been shown to have sold hundreds of thousands of tablets consisting entirely of talcum powder.

"The evidence in the case showed that sales of this material had been made throughout the United States, and while we are loathe to believe that these were purchased by the better class of druggists, the quantities involved were so considerable that we were convinced some action on our part was absolutely essential. It seemed to us therefore that we were morally obligated to call the attention of the public to this incident, and to warn them accordingly, and we feel certain that every member of your association would have acted similarly under the same circumstances.

"We sincerely trust that upon further reflection you will believe that we were absolutely justified, and assuring you of our desire to assist the legitimate drug trade in every possible way."

This admission of their error in deviating from the proprieties of advertising, while not as frank as we might wish, is nevertheless an admission accompanied by an explanation, which showed a just cause for their resentment against certain rascals but which could not justify a disparagement of the entire drug trade. We are of the opinion that the present management of this company is composed of fair-minded American business men and the discontinuance of this style of advertisements evidences that the ethics of business and the properties of advertising will be observed by

them in the future. We congratulate the pharmacists of Pennsylvania for having the courage of their convictions and on the timely action taken.

G. M. B.

A FURTHER RULING RELATING TO EXEMPTED NARCOTICS.

Under date of July 30, the following letter was received from the office of the Commissioner of Internal Revenue. As it sets forth the position of the department on trading in "exempted narcotics" and the records to be kept by dealers therein, the information contained is important to the drug trade and by permission of the recipient is published for the guidance of druggists.

"Receipt is acknowledged of your letter of the second instant, in which you ask for information relative to the registration in Class 5 under the Harrison Narcotic Law, as amended, of manufacturers and dealers in preparations and remedies exempt under Section 6, as amended.

In reply you are advised that manufacturers of exempt preparations are required to register in Class 5 and pay special tax of \$1 a year or fraction thereof. Registration in this class entitles persons so registered to purchase order forms upon which to secure the narcotic drugs entering into the manufacture of their product. Class 5 registrants will not be required to make or file an inventory of exempted drugs.

Every manufacturer, producer, compounder, or vendor (including dispensing physicians) of exempt preparations or remedies must keep a daily record of all sales, exchanges, or gifts of such preparations or remedies.

The record to be kept by manufacturers, producers, or compounders of, and wholesale dealers in untaxed narcotic preparations or remedies must show the date of sale, registry number of person to whom sold, the name and address of the purchaser and the name and quantity of preparation or remedy sold, exchanged or given away. An accurate record must also be kept by manufacturers, producers and compounders of drugs purchased by them on order forms and used in the production of exempted preparations or remedies showing the date when a new mixture is made up, the name and quantity of the particular narcotic drugs used and the date when the mixture is exhausted.

Retail dealers must keep a daily record of narcotic drugs dispensed showing the rate of sale, signature of purchaser, address of purchaser and name and quantity of the preparation or remedy sold. The record of untaxed narcotic drugs sold on prescriptions must show the quantity of drug, name of drug, serial number of prescription, and name and address of person to whom sold. Prescriptions calling for exempted narcotic preparations or remedies must be kept on a separate file.

The government will not furnish blanks upon which to keep these records.

All entries on the daily record must be made at the time of sale.

ANOTHER STEP TOWARD PRICE MAINTENANCE.

In commenting on the recent decision of the United States Supreme Court in the "Colgate Case" (*AMERICAN JOURNAL OF PHARMACY*, July, 485) the opinion was expressed "That this decision will undoubtedly have an important bearing upon the future course of the Federal Trade Commission and may even be considered a long step in the direction of modifying the interpretation placed upon the Sherman Anti-Trust Act or preferably its modification by legislation that will promote fair methods of trading and the restriction of unscrupulous price-cutting." This prediction has been verified even more quickly than we dared to hope for.

In a special report to Congress the Federal Trade Commission (on July 12) renewed its recommendation made last December that manufacturers be permitted by law to fix and maintain resale prices, subject to review by a disinterested agency.

The commission says that such a law would remove present complexity in the business world, promote the efficiency of manufacturing and commercial institutions and serve the interest of the consuming public.

Under the commission recommendation, manufacturers desiring to fix and maintain resale prices would file with an agency to be designated by Congress, descriptions of their articles, contracts of sale, and the price schedules to be maintained. The disinterested agency would be charged with the duty, "upon complaint of any dealer or consumer or other party at interest," to review the terms of contracts and prices.

The commission's recommendations, it stated, were based on the following conclusions:

1. That producers of identified goods should be protected in their intangible property right or good-will, created through years of fair dealing and of sustained quality of merchandise;

2. That the unlimited power both to fix and to enforce and maintain resale prices may not be made lawful with safety; and

3. That unrestrained price-cutting is not in the public interest, and tends, in the long run, to impair, if not to destroy, the production and distribution of articles desirable to the public.

"There must be a common ground," the commission said, "wherein the rights of producer, purveyor and consumer may each be fully secured and equity done to all. The search for such a ground has been a task of the commission."

The text of the commission's special report to Congress follows:

"The Federal Trade Commission under paragraph (f), Section 6 of the Federal Trade Commission Act, addresses the Congress by way of a special report designed to direct attention to the subject of control of resale prices by the manufacturers of a class of articles in interstate commerce.

"The question is, whether or not a manufacturer of standard articles, identified either by trade-mark or trade practice, should be permitted to fix by contract, express or implied, the price at which the purchaser can resell them.

"The question has been continuously before the commission since its creation. It has been the subject of study, investigation and hearing and constantly recurs, in various forms, in complaints filed with the commission by business concerns.

"The Supreme Court has made it clear that, in the present state of the law, the maintenance of a resale price by the producer, is a restraint of trade and is unlawful.

"Such being the judgment of the Supreme Court, the Federal Trade Commission has enforced the law, even though it may have appeared to operate inequitably in some cases. In its enforcement of this rule, the commission has been mindful that the cutting of a recognized resale price on well established and identified articles has been, at times, indulged in for unfair trade purposes. When so unfairly used, such price cutting is attempted to be cloaked as lawful competition and justified by the Supreme Court decisions.

"Thus, both price maintenance, and price cutting under certain conditions, are found to be unfair and business men are perplexed. It is with the desire that this perplexity may be terminated that the commission addresses the Congress.

"It is urged, and, the commission believes, with reason, that it would be unwise to vest with the manufacturers of articles the right, without check or review, both to fix and to compel the maintenance of resale prices. It is true that business practice inclines producers to fix the lowest possible retail price in order to secure the greatest possible sale of their product, but in the complex commercial organism functioning between the production of an article and its final sale, for actual consumption, both the wholesale and retail merchant are entitled to just compensation for useful service performed.

"It is similarly urged, that manufacturers should be protected in their good will created by years of fair dealing and of sustained quality of merchandise.

"The consuming public does not enjoy benefits by unfair price cutting to compensate it for the injuries following demoralization caused by price cutting. This for the reason that, in the long run, unrestrained price cutting tends to impair, if not to destroy, the production and distribution of articles desirable to the public.

"There must be a common ground wherein the rights of producer, purveyor and consumer may each be fully secured and equity done to all. The search for such ground has been a task of the Commission and results in the following conclusions: (1) That producers of identified goods should be protected in their intangible property right or good-will., (2) That the unlimited power both to fix and to enforce and maintain a resale price may not be made lawful with safety. (3) That unrestrained price cutting is not in the public interest.

"Bills now pending before Congress may well be made to meet the difficulties of the situation if amended to provide for a review of the terms of resale contracts and a revision of resale prices, by a disinterested agency.

"Therefore, it is recommended that it be provided by law that if the manufacturer of an article produced and sold under competitive conditions, desires to fix and maintain resale prices, he shall file with an agency designated by the Congress, a description of such article, the contract of sale and the price schedule which he pro-

poses to maintain, and that the agency designated by the Congress be charged with the duty, either upon its own initiative or upon complaint of any dealer or consumer or other party in interest, to review the terms of such contract and to revise such prices and that any data and information needful for a determination be made available to such agency.

"Such legislation would seem to be in accord with the spirit of the times in that it is designed, by removing this perplexity, to promote the efficiency of manufacturing and commercial institutions and so to serve the interest of the consuming public.

The commission respectfully renews its recommendation of December 2, 1918. The conditions surrounding the fixing and enforcement of the maintenance of resale prices have not materially changed since this recommendation was made. The recent decision of the Supreme Court in *United States v. Colgate & Co.* has not apparently legalized contracts providing for the maintenance of resale prices, as the court expressly stated that the indictment did not charge the existence of contracts in that case, and distinguished it from the case of *Dr. Miles Medical Co. v. Park & Sons* on that ground. If the decision be construed to hold it lawful, under the Sherman Law, for manufacturers to fix resale prices and to enforce the maintenance of such prices by refusal to sell to those who do not resell at the prices fixed, or by other means, it does not follow that the fixing and enforced maintenance of such prices is not an unfair method of competition within the meaning of Section 5 of the Trade Commission Act. In order to establish a violation of the Sherman Anti-Trust Act a contract, combination or conspiracy must be proven. If some device for restraining trade be devised which does not fall within the definitions comprehended by these three terms as construed by the courts, it does not constitute a violation of the act, though restraint of trade may result.

"The enforcement of resale prices on goods in the hands of distributors is identical in its effect upon dealers and the public, whether it be accomplished by contract, combination or conspiracy, or by some other means. An unfair method of competition within the meaning of Section 5 may involve the use of contracts or the formation of combinations or conspiracy, but neither of the three is necessary to establish a method of competition. Indeed, unfair methods of competition do not ordinarily involve such contracts or conspiracies. The effect of price maintenance being the same how-

ever accomplished, it may well be urged that such a method of competition violates Section 5 of the Commission Act since it prevents distributors, wholesale and retail, from engaging in price competition on such goods after they have passed into their hands and deprives the public of the benefits of competition in the distribution of all such goods.

"It might also be urged that when price maintenance is approached from the standpoint of an unfair method of competition, regard must be had to its effect when employed by many manufacturers rather than when employed by one, and that in this view it results in the elimination of price competition in the distribution on a vast and constantly increasing number of commodities of common necessity.

"On the other hand, if the effect of the Colgate decision be to legalize the fixing and the enforcement of the maintenance of resale prices other than by contract, the desirability of the enacting of legislation recommended by the commission becomes even more apparent. In the commission's previous report it was stated that the unlimited power both to fix and enforce the maintenance of resale prices may not be made lawful with safety to the public. The interest of the consuming public in the enacting of such legislation is therefore more vital at this time than when recommendation was previously made.

"WILLIAM B. CLOVER,
"JOHN FRANKLIN FORT,
"VICTOR MURDOCK,
"HUSTON THOMPSON,
Commissioners."

NOTES ON THE DASHEEN AND CHAYOTE.¹

BY HEBER W. YOUNGKEN, PH.D.,

PHILADELPHIA, PA.

Within comparatively recent years the United States Department of Agriculture has introduced into southern horticulture two exotic vegetables—the Trinidad dasheen and the chayote.

The success attending their experimental culture and the steadily

¹ Read at the annual convention of the Pennsylvania Pharmaceutical Association, Buena Vista Springs, Pa., June 26, 1919.

increasing demand by the populace of many sections have encouraged their commercial cultivation to a limited degree. It may be safe to predict, however, that when the delicacy of their flavor becomes more generally known, they will be cultivated to such an extent, as to be common articles of our markets alongside of the potato and the squash.

THE TRINIDAD DASHEEN.

The Trinidad dasheen was introduced into the United States from the island of Trinidad, West Indies. Its native home was



FIG. 1. Trinidad Dasheen plant, *Colocasia esculenta* (L.) Schott, of three months' growth, raised in the greenhouse of the Philadelphia College of Pharmacy. $\times \frac{1}{6}$.

probably China, partly because the taro varieties closely allied to it have been found growing in that country and partly because its

name appears to be a corruption of the French phrase "*de la Chine*," which means "from China."²

Description of Plant.—The plant is a variety of the species *Colocasia esculenta* (L.) Schott, a member of the *Araceæ* family, and closely related to the common elephant ear plant of our gardens. Its underground parts (Fig. 3) consist of a large central corm

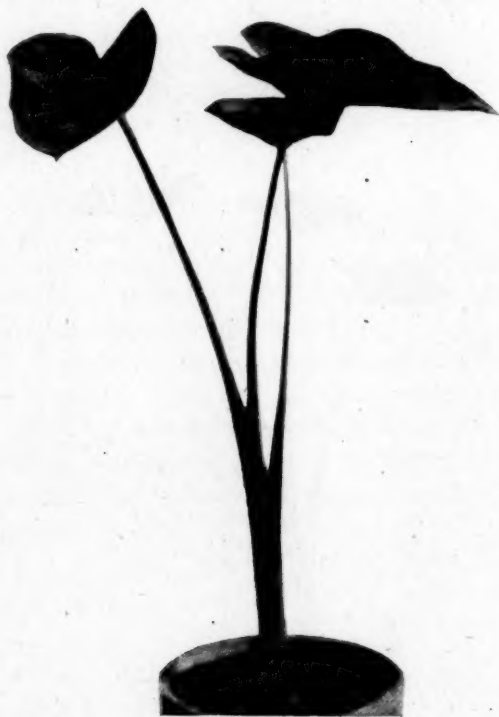


FIG. 2. Aërial portion of the Trinidad Dasheen, *Colocasia esculenta* (L.) Schott, as grown in the P. C. P. greenhouse. Note the long petioled, peltate leaves, whose laminæ show auriculate basal lobes. $\times \frac{1}{6}$.

weighing from two to four pounds, of spheroidal or broadly fusiform shape and reddish-brown color, and, in addition, numerous lateral cormels, which spring from various nodes along the periphery of the mother or central corm. Both mother corm and lateral cor-

² R. A. Young, "The Dasheen; its Uses and Culture," Separate 689, U. S. Dept. of Agriculture Yearbook, 1916.

C. F. Langworthy and A. D. Holmes, "The Digestibility of the Dasheen," Bulletin 612, U. S. Dept. of Agriculture, 1917.

mels are marked by the presence of numerous rings which represent leaf scars. When the lateral cormels are removed large circular to ovate light colored spots are exhibited. The total from one hill of these underground portions ranges from four to thirty pounds.

The above ground parts (Fig. 2) consist of several petiolate, auriculate, peltate, bright green leaves, three feet or more long and a spadix, which is free and terminated by a sterile appendage.

Histology.—When examined microscopically, sections of the Trinidad dasheen corm show the following histological peculiarities, passing from periphery toward the center.

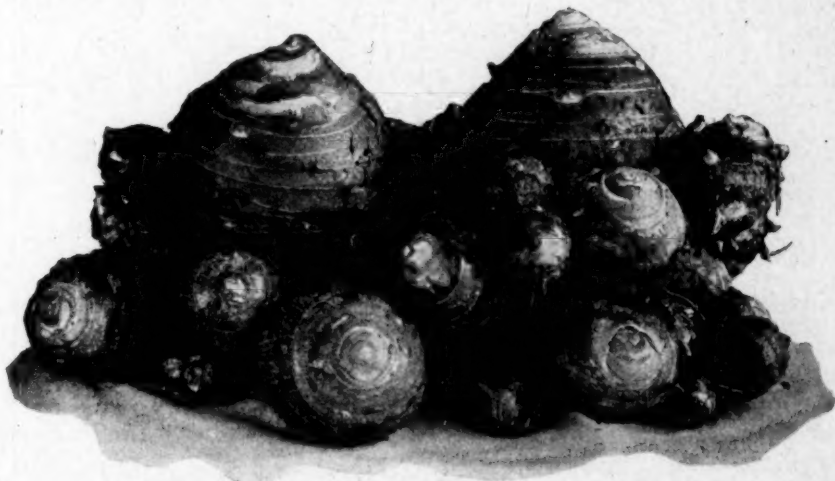


FIG. 3. Two mother corms with their lateral cormels, the product of an 11-pound hill of Dasheens. (Photograph by R. A. Young in Separate 689 from U. S. Dept. of Agric. Yearbook, 1916.)

1. A zone of cork composed of numerous layers of cells with suberized walls, varying in shape from irregular polygonal to rectangular.

2. A broad zone of phellogen, composed of more or less rectangular shaped tangentially elongated cells with rich protoplasmic contents.

3. A broad central matrix, composed of parenchyma tissue, the cells of which are mostly thin walled and abundantly filled with starch. The starch grains are mostly simple, but compound grains composed of up to eight units are occasionally met with. The simple grains vary in outline from rounded to irregularly rounded

to irregularly ovate or angular. Some of these are devoid of striations or a distinct hilum, while others, as shown in Fig. 5, show both of these structures. In size, they range from 3μ to 19.2μ . The hilum, when distinct, varies from linear to circular, to angular or to several cleft. The lamellæ and striations, when distinct, are always concentric. These, along with the hilum, may be well ob-

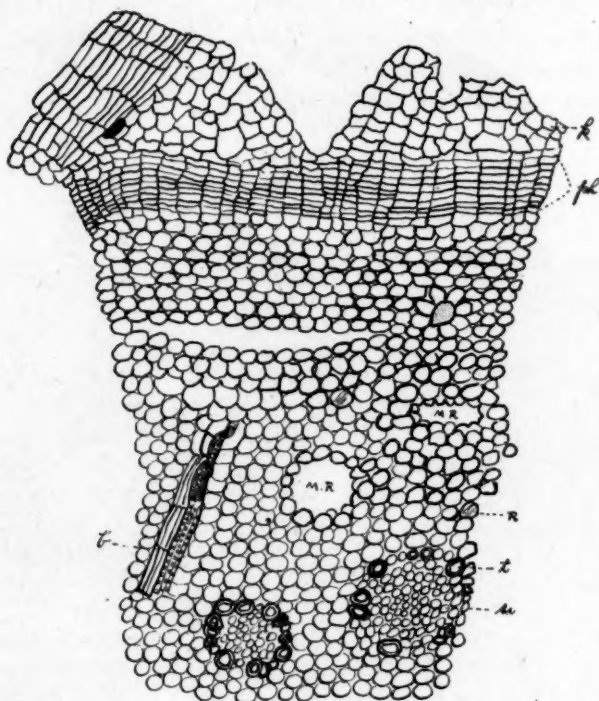


FIG. 4. Cross section of a portion of the corm of *Colocasia esculenta* (Trinidad Dasheen), cleared with potassium hydroxide solution, showing cork (*k*), phellogen (*ph*), raphides of calcium oxalate (*R*), trachea (*t*), and sieve tube (*st*) of concentric fibrovascular bundle, and longitudinal view of portion of a bundle (*b*). $\times 18$.

served in a mount stained with dilute gentian violet. Scattered throughout this region are to be noted numerous mucilage reservoirs of irregularly rounded, oval or ellipsoidal outline, whose contents are deeply stained with basic aniline dyes.

The fibrovascular bundles are of concentric type and may be found scattered throughout the section in irregular fashion. From

the main axis bundles numerous branch bundles emanate at various levels, which course out into the lateral cormels.

Crystals of calcium oxalate in the form of raphides are found in numerous cells of the central matrix (Fig. 4).

Uses of the Dasheen.—The portion of the plant suitable for diet are the corms with their lateral cormels and the aërial shoots. The former are not intended to replace the white or the sweet potato, nor the latter, the asparagus, but rather to augment the comparatively small number of starchy vegetables now in use in our country. The underground parts which are sold as "dasheens" in some of our



FIG. 5. Starch grains from parenchyma cells of the Trinidad Dasheen corm and cormels (highly magnified).

markets contain about 50 per cent. more protein and 50 per cent. more starch and sugars than the potato tuber. The average of ten analyses of these portions made by the Department of Agriculture is as follows:

	Per Cent.
Solids	37.235
Ash	1.3
Starch	26.097
Soluble sugar	1.75
Ether extract157
Crude fiber71
Proteids	3.03
Pentosans	1.24

The corms and cormels are employed in the same manner and in quite as many ways as the white potato. They may be served baked, mashed, scalloped, stuffed, cooked with grated cheese, and "French" or "German" fried. The seasoning is similar to that employed for the white potato. When baked or boiled, the interior

of a mature specimen is mealy, though firmer than the potato, because of its comparatively lower water content. Its flesh varies in color from cream to more frequently grayish white or tinged with violet.

Dasheens are best eaten directly after they have been baked or boiled. If kept standing they gradually lose in palatability.

An excellent flour has been made from dasheens. The corms and larger cormels are pared and either sliced or shredded and then dried and ground in a mill. This flour is mixed with that of wheat or rye in the proportion of one part of the former to three or four parts of the latter.

The shoots are commonly blanched by forcing them from larger corms in the dark and are said to be more tender than those of asparagus.

THE CHAYOTE.

This vegetable, concerning which little has been recorded, is the fruit of *Chayote edulis* Jacq. (Family Cucurbitaceæ), a native of



FIG. 6. Fruits of the Chayote, *Chayote edulis* Jacq. Note the embryo protruding from the distal end of each of the fruits in center and the left of the figure. $\times \frac{1}{2}$.

tropical American. The plant is a climbing, sparsely hairy vine, with perennial tuberous roots. Its stem bears alternate, cordate, palmately 3-lobed or angled leaves, which are membranous in texture. From points along the stem opposite the leaves 2-5-branched tendrils arise which assist the vine in climbing. The flowers are monœcious and axillary; the pistillate are solitary, while the staminate are borne in small clusters. The calyx tube is crateriform with a 5-lobed limb. The greenish to cream-colored corolla is rotate, deeply 5-parted, the segments being ovate-lanceolate. The filaments and styles are connate into a central column of which 2-celled anthers appear as lobes.

The stigmas are closely set together forming a small head. The ovary is inferior. The fruit is a greenish or ivory white, fleshy, pear shaped or globose, one seeded pepo (Fig. 6). Its surface is more or less corrugated and marked by the presence of spines around both ends. The embryo protrudes from the center of the distal end before the fruit is mature. The seed is exalbuminous and consists of a seed coat firmly adherent to the endocarp and enclosing two cotyledons, a plumule and a radicle. The cotyledons attain a length

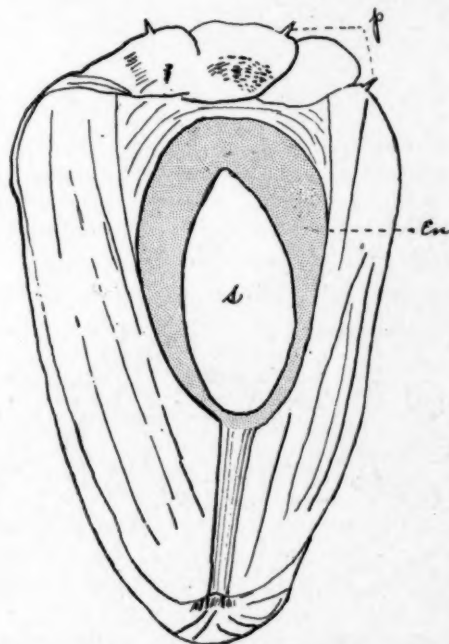


FIG. 7. Fruit of *Chayote edulis* Jacq., cut lengthwise with embryo and portion of pericarp removed. The dotted area (*en*) indicates the surface of the endocarp which is not adherent to the seed coat. Note seed coat (*s*) and spine (*p*). $\times 1\frac{1}{2}_{20}$.

of from 2 to 2½ inches, averaging one half the length of the fruit. The average weight of the fruit is about 8 ounces (Fig. 8).

According to a circular issued by the United States Department of Agriculture, the chayote may be grown successfully on any well-drained, cultivated land in sections of the Southern States where the ground does not freeze,—anywhere south of a line drawn from Charleston, S. C., to Baton Rouge, La.,—and along the Gulf coast

of Texas. It has fruited at some points north of this.³ It is reported to have been grown in California.

Histology of Fruit.—With other cucurbitaceous fruits, that of the chayote agrees in the fusion of the receptacular to the carpellary portions during the developmental process.

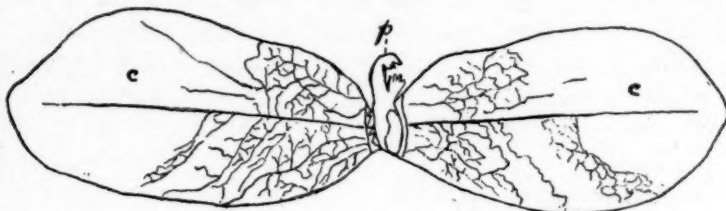


FIG. 8. Embryo of *Chayote edulis* Jacq. Note plumule (*p*) and inner surface of cotyledons (*c*) which have been spread apart. $\times 19\frac{1}{2}$.

Receptacular Portion.—This region constitutes by far the greater portion of the fruit area. In surface section (Fig. 11) the outer epidermal cells are polygonal in outline and richly protoplasmic. Many of these contain small prisms of calcium oxalate. Scattered all over

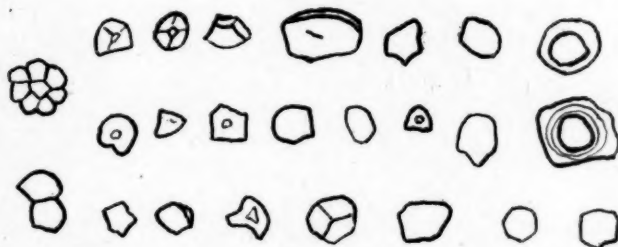


FIG. 9. Various types of starch grains found in the mesophyll cells of the Chayote cotyledons (highly magnified).

this region and interspersed among the regular epidermal cells may be noted small groups of cells, not unlike the other cells in shape, but having thicker walls and yellowish to light-brown fixed oil contents. Stomata are also found in moderate numbers in this region.

³ Circulars and Pamphlets on "The Dasheen and Chayote," issued by the U. S. Dept. of Agriculture.

L. P. Byars, "A Nematode Disease of the Dasheen and its Control by Hot Water Treatment," *Phytopathology*, Vol. 7, No. 1, January, 1917.

L. L. Harter, "Storage-rots of Economic Aroids," *Jour. Agric. Research*, U. S. Dept. of Agriculture, Vol. 6, No. 15, July 10, 1916, pp. 549-572.

These with their guard cells are broadly elliptical in outline. Each is surrounded by five neighboring cells. In cross section (Fig. 10) the outer walls of the epidermal cells are slightly convex and cutinized. Beneath the outer epidermis is a zone of several layers of parenchymatous cells, many of which have lignified walls. In some instances lignification occurs in the walls of the cells directly underneath the epidermis, while in others the lignified elements are sepa-

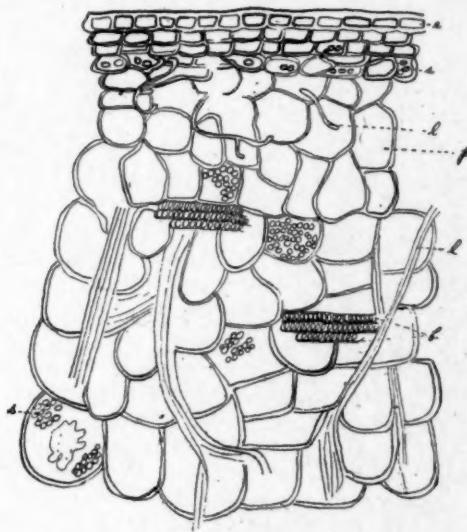


FIG. 10. Transverse section through receptacular portion of Chayote fruit showing epidermis (*e*), parenchyma (*p*), latex tubes (*l*), portion of fibrovascular bundle (*b*), and starch grains (*s*). $\times 95$.

rated from the epidermis by one to several layers of cells with non-lignified walls. The next broadest zone of the receptacle is composed of more or less radially elongated, thin-walled parenchyma cells, comparatively small in the outer region but gradually becoming larger toward the center. Numerous branched latex tubes, with yellowish contents, course irregularly through this region. Fibro-vascular bundles of the bi-collateral type are also to be noted. The most conspicuous elements of these are the spiral ducts which attain a breadth of 28 microns.

Carpellary Portion.—Separating the receptacle from the carpellary portion of the fruit may be noticed a sharply demarkated band of cells, three layers thick (Fig. 13). Of these the outer layer and

inner layer are comparatively clear, while the middle layer is filled with dense protoplasmic contents. The innermost layer of cells of this region is the broadest, contains starch grains, and doubtlessly represent the epicarp of the ripened carpellary wall.

Passing from this region toward the embryo will be noted numerous layers of thin-walled cells of rounded or irregular outline, whose lumina contain either protein or carbohydrate contents or both. This region constitutes the mesocarp. It is traversed by nu-

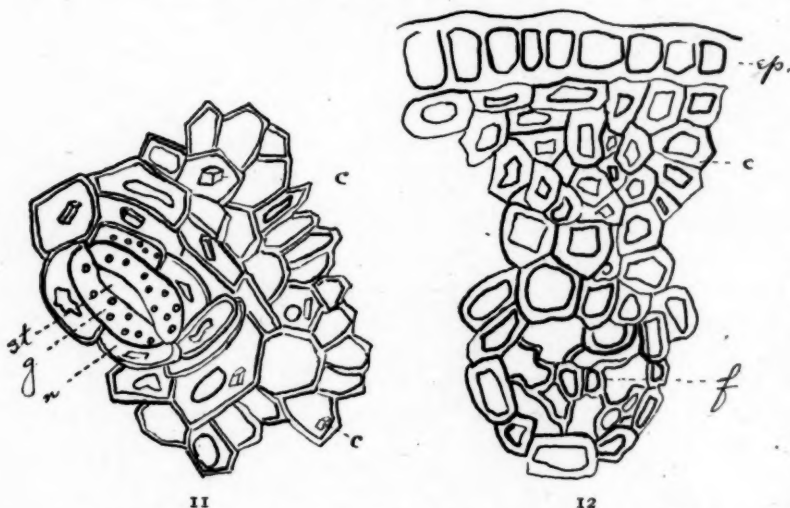


FIG. 11. Surface section of epidermis of receptacular portion of Chayote fruit. Note stoma (*st*), guard cells (*g*), neighboring cells (*n*), and crystals (*c*) within epidermal cells. $\times 400$.

FIG. 12. Transverse section of a representative portion of a spine of Chayote fruit. Epidermis (*ep*), thick-walled cells of cortex (*c*) and vascular tissue (*f*). $\times 75$.

merous bi-collateral bundles. The endocarp consists of a layer of rather small tangentially elongated cells. Over that portion of this region which is unattached to the seed coat (Fig. 7), the cells are larger and have very thick brownish walls.

Seed.—The seed coat is composed of tangentially elongated cells, the outer walls of which are united firmly to a portion of the endocarp.

Cotyledons.—The outer covering tissue or epidermis consists of a layer of cells, which, in surface view are polygonal, and rectangu-

lar when observed in tranverse section. Many of the cells of this tissue possess starch grains. Branched stellate hairs and glandular hairs are scattered over this tissue (Fig. 15).

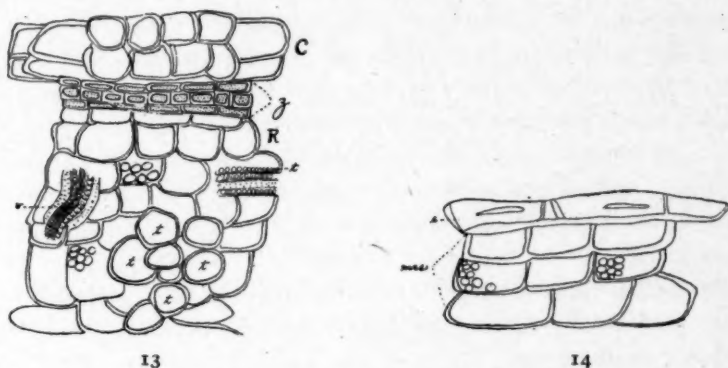


FIG. 13. Cross section through portion of Chayote pericarp including zone of union (z) of receptacular (R) with capellary (C) portions; fibrovascular bundle running transversely (v), and tracheae (t) running longitudinally. $\times 70$.

FIG. 14. Transverse section of area of endocarp and mesocarp of Chayote fruit, facing that portion of the central cavity which is not occupied by seed, showing endocarp (e), which is thicker-walled in this region than elsewhere and mesocarp (mes). $\times 70$.

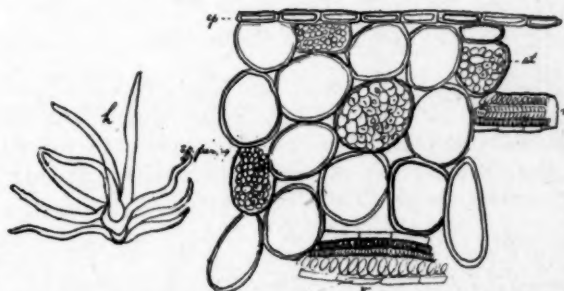


FIG. 15. To right, Transverse section of representative portion of a cotyledon of *Chayota edulis* Jacq., showing epidermis (ep), spongy parenchyma (sp), starch grains (st), and veins (v). $\times 120$. To left, stellate hair from epidermis of cotyledon. $\times 90$.

Beneath the epidermis will be noted spongy parenchyma tissue composed of somewhat spheroidal to polygonal shaped cells containing starch grains, which are mostly simple, spheroidal or plano-

convex, rarely 2-3 compound (Fig. 9). These have an average range of 3 to 28 μ in diameter. Occasionally somewhat elongated ovoid-shaped grains are seen which attain a length of 40 μ .

Radicle.—This shows the usual cucurbitaceous structures typical for that portion of the embryo. The cells of the cortex are rich in protoplasm, have prominent nuclei, but are entirely devoid of starch.

Uses of Chayote.—The fruits should be picked from vines when but two thirds or three fourths grown. They lose their delicate flavor and become tough, if allowed to mature. They are then cut into halves or quarters and boiled. The boiled fruit can be creamed, baked, fried, or made into fritters, sauces or salads, similar to the squash.

The vines, tuberous roots and fruits may be used as fodder for stock. The woody-stems furnish a fine fiber known to the French as "*paille de chouchon*."

BOTANICAL RESEARCH LABORATORY,
PHILADELPHIA COLLEGE OF PHARMACY.

CONSTRUCTIVE SUGGESTIONS FOR THE REVISION OF THE PHARMACOPŒIA.¹

BY DR. FRED. B. KILMER,
NEW BRUNSWICK, N. J.

"Great economic and social forces flow with tidal sweep over communities only half conscious of that which is following them. Wise statesmen are those who foresee what time is thus bringing, and try to shape institutions and to mold men's thoughts and purpose in accordance with the change that is silently surrounding them."—VISCOUNT MORLEY.

We see the curtain lifted upon the tenth revision of the United States Pharmacopœia. Each decennial revision of the Pharmacopœia has marked an era, and this one perhaps more than all that have gone before. A pharmacopœia, such as ours, more than any single volume, records the progress of medicine, of pharmacy, of surgery and of allied sciences.

The ninth revision carried forward the last decades of the old

¹ Presented at the annual meeting of the New Jersey Pharmaceutical Association, Atlantic City, June 10, 1919.

century, in which had taken place great world changes. It was during that time that surgery moved forward a thousand years in a day. Procedures, startling in character and far-reaching in results, followed each other in quick succession.

No one has yet written the full measure of the progress in the practice of the healing art of the days just past. All this has wrought a most profound change in the practice of medicine, pharmacy and surgery, and had an important bearing upon our pharmacopœia.

The present revision comes in the dawn of a new time. Constitutions, nations, races, peoples—the whole world—has been shaken to its innermost depths. We emerge from the ravages of the world war-torn and bruised. The effects upon peoples, upon science, upon the practice of medicine and pharmacy, are not at the moment clarified, but we must take up the burden with stout hearts and a full hope.

SCOPE OF THE PHARMACOPŒIA.

The two last revisions of the pharmacopœia have been the basis of an unusually extended discussion as to the nature and scope of such a work. In these discussions it is quite evident that the real nature of the pharmacopœia has been lost sight of.

Charles Rice, the master maker of pharmacopœias, stated that, "at the present day the work may be considered prescriptive for, and descriptive of, medicine." He stated that the manufacture of certain classes of pharmaceutical preparations is becoming more and more concentrated in the hands of large institutions. The function of the pharmacist is chiefly confined to the examination of the preparations and substances which he buys, by means of such tests as are available to him.

Recognizing this condition, the later pharmacopœias have eliminated working processes for preparations which have passed almost entirely into the hands of the large manufacturer and have substituted for them more detailed descriptions and tests.

Under these definitions it is quite apparent that the pharmacopœia is not a text-book, either for medical, pharmaceutical, or chemical students; it is not a working manual for the manufacturer; it is not a guide for the practice of medicine, nor a code book for the collector of customs and the food and drug inspector.

PHARMACOPŒIAL STANDARDS.

The pharmacopœia has been styled as a "book of standards." This is not its entire scope. Officially the British Pharmacopœia declares its object to be "to afford to the members of the medical profession and those engaged in the preparation of medicines, one uniform standard and guide whereby the nature and composition of substances to be used in medicines may be ascertained and determined."

The chief object of the pharmacopœia under this definition is to insure uniformity in medical substances.

According to Charles Rice, the term "standards" applied to pharmacopœial preparations, comprises three distinct features: Quantitative determination of the active principles, identification of the active principles, adjustment of strength.

He believed that standards need only be applied to drugs of importance and potency.

The convention of 1900 adopted what is known as the "purity rubric," which rubric declared the percentage of pure substances, and the limit of the inactive impurities permitted. This rubric was intended to apply to the articles contained in the pharmacopœia only when used for medicinal purposes, allowing articles used for technical purposes, or in the arts, to vary from the standard in the pharmacopœia.

The drug inspector and the customs house officer are mainly interested in the standards as defined in the pharmacopœia, and for them the more rigid and the more technical the better. The drug broker and the patent medicine man would prefer standards of maximum elasticity.

It has been urged in respect to the descriptions and standards for drugs of botanical origin, that they were too finely drawn. We may certainly contend that under the stress of war, and in the face of a scarcity, amounting almost to a famine of certain drugs, the pharmacopœial requirement that drugs must be that of a given country's origin, or in other cases could not be used because they contained too large a percentage of an unofficial portion of the same plant, or were not of the specified period of growth, our pharmacopœial standards were unnecessarily rigid.

By all means, we may at this time urge that our standards be so arranged that American grown drugs upon which so much sacrifice

and energy have been expended, shall be fostered, continued and protected.

THE MEDICAL MAN AND THE PHARMACOPŒIA.

The several last revisions of the pharmacopœia called forth acrimonious criticisms on the side of the medical practitioner. It should be recollected that in its inception the pharmacopœia was purely a medical document. The first edition stated on its title page that it was published by the authority of the medical societies and colleges. At the time no college of pharmacy existed in this country. The medical control continued in the three subsequent revisions.

In 1850 pharmacists were recognized as delegates to the convention, and from that time forward pharmacy took an active part in the work of revision.

The criticism of medical writers are on one hand directed against certain drugs and preparations which are contained in the pharmacopœia. On the other hand, the work is criticized because certain drugs and preparations are omitted. "You're damned if you do, and you're damned if you don't." One medical writer styles the pharmacopœia "a medical barbarism," and wants half its pages cut out.

On another side the contention has been that the pharmacopœia should contain every article used in medicine. A practitioner of medicine has stated that "if a physician prescribes brick dust, that brick dust must be defined by the pharmacopœia." Again, there are a small number of critics who are primarily pharmacologists, who intimate that "there is no use for any drug that has not been proven on frogs."

As to the great variance of medical writers on what should not be admitted to the pharmacopœia, Professor Remington tersely says, that "While it is true there are plenty of things in the pharmacopœia that the doctors in Chicago never thought of using, it is equally true that the doctors in Texas, or somewhere else, do use them largely, and the doctor there is just as much entitled to a standard for his preparations as the doctor in Chicago, or Philadelphia, or New York, who has never heard of these articles."

Physicians naturally do not take much interest in the botanical or chemical description, or in the tests for identity or for purity. According to Charles Rice, the main objects which a physician usu-

ally has for consulting a pharmacopœia are to ascertain the preparations or forms which are available in the case of certain drugs, the strength of the respective preparation, and the ordinary dose. This authority has stated likewise that the pharmacist at his prescription counter has to look for precisely the same information as the physician desires.

In one of the early editions of the pharmacopœia it was plainly stated that the pharmacopœia "did permit a description of medicines of acknowledged value, and of others of less estimation." It has likewise been truly urged that "should we introduce information on pharmacodynamics and on therapeutics, we would never reach the end. To limit the pharmacopœia to drugs of undoubted therapeutic value would offend many of the rank and file of the medical profession, wedded as some of them are to drugs of doubtful activity."

Notwithstanding such strictures we may well believe that the value of the pharmacopœia is admitted by all physicians, and from a summary of the discussions we may formulate the following:

The physician trusts that the pharmacist is acquainted with the information contained in the pharmacopœia.

The physician seeks only for information of practical application for himself.

Physicians regard the pharmacopœia as unprogressive, and not representing the advances and innovations constantly put forward by manufacturers and the medical profession, which is true.

Physicians do not look to the pharmacopœia as a guide for the value of medicaments.

The pharmacopœia does not contain all medicaments of value.

To eliminate from the pharmacopœia the drugs considered by one class of physicians as of doubtful value, would eliminate many drugs that are much used, and thus lessen the value of the pharmacopœia to the pharmacist.

No pharmacopœia, no rule, or no law can interfere with the practitioner who remains loyal to the old-fashioned drugs or lines of treatment.

POPULARITY OF THE PHARMACOPŒIA.

From a book-trade point of view the pharmacopœia would not be classed as among the "best sellers." Physicians have openly

stated that they have no use for it. Pharmacists have declared that it is one book they could get along without.

That the stated revisions of the pharmacopœia are not received with enthusiasm, and that the book does not attain popularity, is the consensus of opinion. It is interesting to note, however, that the fifth revision (1870) attained an unusual popularity. For years after it had become out of date, and a new revision had been made, the fifth edition was still being sold. At the present day, although four revisions have since been published, the edition of 1870 may still be found on the shelves of many pharmacists, and among the books used at the dispensing counter and in the laboratory. One reason for this unusual popularity is ascribed to the fact that this fifth revision contained processes and formulas which have not been carried to the subsequent revisions.

M. I. Wilbert expressed the belief that the popularity of the pharmacopœia depends to a great extent upon the price at which it is sold. Corroborating this view is the fact that the edition of 1870 was sold at a comparatively low price. The subsequent editions have been subjected to considerable criticism on account of their high price.

To meet this apparent condition, might it not be feasible to issue several editions of the book—for example, a full edition in the best binding for those who may desire this particular form, and an abridged edition for physicians, nurses and students, who may only desire to acquaint themselves with certain parts of the work?

Wilbert also stated that he believes that so far as possible the book should be one which, through its inherent merit, will present the sum total of our present knowledge in such a shape that it will eventually find its way into every shop where drugs and medicines are sold or prepared. It should be made indispensable to the working pharmacist as a guide and reference to his daily work; a book which he will learn to cherish on account of the information that it contains; a book that he will follow, because its formulas are simple and concise, and which without unnecessary care will give preparations that compare favorably in appearance and efficiency with any that can be produced by the manufacturing pharmacists.

The book should be good enough and cheap enough to appeal to the physician as a source of information, a necessary text-book to the student, and to the apothecary a manual and guide in his every day work.

It is the generally expressed opinion that the influence the pharmacopœia has among medical practitioners, and even among the public, in other words, its popularity, depends largely upon how far pharmacists are able to demonstrate their own ability to interpret the formulas and standards that are embodied in it. In short, the popularity of the pharmacopœia rests with the pharmacist.

I presented to this association certain suggestions as to how the druggist might help to popularize the pharmacopœia. Among the suggestions were these—

That the druggist should become the sales agent of the pharmacopœia. That if possible he should attempt to create a demand for the work.

That the pharmacist should endeavor to educate the public as to the meaning of the pharmacopœia, and its influence upon the trade in drugs and medicine.

That so far as possible he should educate his customers to realize that the goods dispensed in his store are made and dispensed according to the pharmacopœial standard.

It was suggested that the popularizing of the pharmacopœia would increase the reputation not only of the pharmacopœia itself, but of the druggist, and create a new view point for the customer, who, if he understood the real meaning of the pharmacopœia, instead of judging the value of an article by the price, would judge it by its integrity and by the statement on the label.

It was also suggested that druggists should have the letters "U. S. P." upon their labels and packages wherever the contents would permit.

That through the various journals, newspapers, circulars and otherwise, the pharmacist should announce the advent of a new pharmacopœia, and emphasize the fact that preparations from his store are made according to this standard.

It is possible that through measures of this character, instead of having a new pharmacopœia as an event to be dreaded, or to be endured, that it could be commercialized, and that the pharmacist, should he so desire, might make money out of the pharmacopœia.

We might here suggest the advisability of a publicity bureau in behalf of the pharmacopœia upon each recurring revision, and let this bureau, through the medical press, through pharmaceutical journals, through the lay press, and through every available channel, clearly express what the pharmacopœia is, and what it means to our people.

Let the slogan "The Pharmacopœia is For All" be driven home, and the pharmacopœia cannot fail to become popular.

CRITICISMS OF THE PHARMACOPŒIA.

The pharmacopœia is a much criticized book. In recent years immediately upon the issuance of a revision there has followed a flood of reviews and criticisms.

When analyzed, these criticisms are found for the most part to be very general. Often they are warped. They express only an individual, and at times a rather narrow, view. They are apt to be greatly lacking in directness. At times criticisms, when formulated, amount only to a proofreader's error either in spelling, punctuation, or even the transposition of a figure or the misplacement of a decimal. Criticisms of this character are prolific just after a new revision, and quickly cease.

The Revision Committee have manifested a rather extreme sensitiveness to criticism. In a book of such scope as the pharmacopœia it is easy to find something with which one may disagree. We can conceive that it would be rather superhuman to put together a book so profoundly affecting a diversity of interests and expect to escape criticism. Indeed it would be an evidence of stagnation if our pharmacopœia was to be considered as containing the last word. Every successive revision is only a step toward that absolute goal which will never be reached. When the perfect pharmacopœia shall be issued, man will no longer be man.

Constructive criticism, criticism that is earnest, that is deep, and that is honest—is helpful and is to be desired. If any fair number of workers in pharmacy and in medicine and in allied arts would formulate painstaking suggestions, it would go a long way towards the betterment and the upbuilding of the work.

In many dissertations upon the pharmacopœia, that appear just after its issuance, there is a preponderance of fault finding, of the tearing down and the ripping apart order. Very few are suggestions that build and strengthen.

Criticisms of the pharmacopœia should come before the revision, rather than after. To be helpful, they should be constructive rather than destructive. As a practical hint, we might add that it would be well for the writer of criticisms upon the pharmacopœia to put his suggestions in the exact language which the writer believes should

be used in the revision. Concise, definite suggestions, with brief reasons for the same, are what are most desired.

"Pharmacists, individually and collectively, are responsible for the shortcomings, errors, ambiguities and faults of the pharmacopœia, and they are in a position to point out to the committee on revision how and why the corrections are to be made, where and how the book itself may be improved to make it readily accessible as a knowledge on all matters pertaining to drugs and medicines as they are generally accepted and widely used in the treatment of disease."—LaWall.

THE LANGUAGE OF THE PHARMACOPŒIA.

Our first pharmacopœia was written in Latin text with the English translation on the opposite page. Latin was chosen for its supposed conciseness. As the language of science or culture, Latin has practically disappeared.

Strictures have been made against our pharmacopœia in respect to its language, its spelling, its form, its diction and its grammar. These have mainly come from a superficial review of the book. The revisers have, with care, preserved the "form of sound words" that have come down from the ages. The pharmacopœia is written in good English. The revisers have been cautious of innovations; they have made changes when such changes would tend towards force, lucidity, uniformity, simplicity and an economy of expression.

In a way the United States Pharmacopœia follows no model. It is not an essay, nor a text-book; it is neither a commentary nor a dictionary. It is a pharmacopœia—following a style and a form which it has created for itself.

In any discussion as to the language used in the pharmacopœia, we must ever have in mind what it is. Professor Remington stated tersely that "the pharmacopœia is for all." Savants, scientists, physicians, pharmacists, clerks, students, nurses; the government officials, the attorney, the judge and the jury in the court, even the man in the street, will at one time or another have cause to read the pharmacopœia. Its language must be that which will always carry the same meaning.

The fact that our pharmacopœia is written in the English language is important. We are in the beginning of a new time. As a result of the world carnage, space boundaries and racial differences

have to a marked degree disappeared. The press, the telegraph, the telephone and the phonograph have commingled and intermingled speech.

Out of this we find at most two languages which seem to have attained the balance of power, viz.: English and French. The smaller languages survive as speech, but not as the language of literature or science.

The war has put an end to the spread of the German language, or of German influence in science. Before the war the Germans themselves realized the inadequacy of their language as a world tongue. To prevent the growing predominance of English and French, the Germans invented and fostered artificial tongues, such as Esperanto.

With the coming of peace, Germany takes rank as the Ishmael among nations. Against the spread of the German tongue, German "kulture" and German science, are hostile frontiers. The nations of the earth have set their hearts, their bodies and their guns against any Germanic advance.

It foreshadows much that at the Peace Conferences the scores of nations represented conducted their sessions and wrote their documents in the English and French tongues. The French speech is smooth, light, flowing and expressive. A book in any language is easily translatable into French. The English and French languages have technical and scientific phrases which have meanings in common. Through language alone French science must hold a high place in the world's literature.

English is the language of commerce. It is predicted that it will be the world language of the future, with French as a second choice. Pharmaceutical literature in English has already encompassed the earth.

The British Pharmacopœia of 1914 was an imperial pharmacopœia, legalized and accepted throughout the whole British Empire.

The preëminence of the United States Pharmacopœia is acknowledged. American dispensatories, and such works as Remington's Pharmacy, have no counterpart in any language. It was a German, not an American, who proclaimed American Pharmacy as "the best in the world."

Through combined British and American influence the pharmacy of the world, so far as literature and practice are concerned, will, for generations to come, be under the domination of the English language.

The eighth revision of our pharmacopœia was translated into Spanish to meet the needs of Latin America. It might be suggested that the coming revision should be translated into French. This would make the work available throughout the continent of Europe where, for years to come, conditions will preclude the issuance of pharmacopœias or pharmaceutical literature.

The United States Pharmacopœia, in English and in French, coupled with the far-reaching British Pharmacopœia, must certainly dominate the world of pharmaceutical thought.

FUNDAMENTAL PRINCIPLES.

There are certain fundamental principles which should govern the revision and the use of the pharmacopœia. These should be kept ever in view. The whole of the vast machinery which has to do with the preparation and dispensing of medicines, must have for its foundation the pharmacopœia. The well-being of the people in sickness, in life, in death, is linked with the pharmacopœia.

One of the primary objects of the pharmacopœia is to secure the uniformity and the integrity of medicine. Without a pharmacopœia there would be medical chaos. Abolish the pharmacopœia and we are without chart, compass or rudder.

We can hardly imagine the helplessness of a people with such a preparation as the tincture of opium put out under a different standard by each dispenser.

To secure uniformity and integrity was one of the principles which governed the founders of the pharmacopœia. This vital principle existed long before the coming of the Pure Food and Drugs Law, which enactment made it into a legal standard. It always has been, and always must be, the standard else it loses its vital spirit.

The pharmacopœia is now controlled, revised and made upon the same basis as is the government of the people which it serves. A representative body makes and revises the pharmacopœia. The present makeup of this body is that which has grown with the years. Representatives from the medical profession, from associations, colleges and institutions, from certain branches of the government; representatives elected from every branch of the art and trade in drugs and medicines, control and formulate the revision.

Were the pharmacopœia to be issued under government control, or under the control of one body, of some one school or college of

medicine or pharmacy, some one organization of trade, the vital breath would disappear.

The pharmacopœia must be representative—it must not be formulated for one school of medicine to the exclusion of another, for one state or one locality to the exclusion of others. It must not be a college text-book, or a manufacturer's compendium. It must not tear down or build up one branch of pharmacy or of medicine. It is not a book of regulations for the use of bureaucratic inspectors. Its foundation must be broad, wide, deep—for the people of the realm whose representatives founded and kept it where it is.

The authority for the pharmacopœial revision should not be vested in one man or even one set of men. We must maintain a system of checks and balances. The authority and the responsibility must be divided. We are told that concentration would make for efficiency. On the other hand, concentration would also make for tyranny.

Put the making of the pharmacopœia in the hands of a drug inspector, and it would emerge a set of rigid standards and tests, covering a most restricted number of substances. Put the revision in the hands of a physician and he would select a dozen drugs, and enact that these drugs and no others were to be recognized for use in medicine.

While the ever-increasing complexity of the problems involved in revising the pharmacopœia, demand that for efficiency there must be a concentration of power as well as a division of labors, we must ever guard against the concentration of power into one school, one party, or one man.

It is vital that the fundamental principles of the pharmacopœia shall be known and accepted by all who have to do with that which is written between its covers. This means that those who in any way have to do with the making, handling, selling, buying or dispensing of medicines must support the pharmacopœia. It is the pharmacopœia of the people, for the people and by the people. The breath of this life, its continued vitality, depend upon the general and intelligent acceptance of it by all people. Pharmacists, chemists, druggists, physicians and patients alike must have faith in it, must believe in it, must uphold it.

The pharmacopœia is far from complete. It is for this reason that provision has been made for its periodic revision. But there are certain underlying principles which cannot be destroyed or im-

paired without wrecking the pharmacopœia. There exist certain forces which tend to undermine and subvert these principles. These forces must be checked. All true pharmacists, all true physicians, all true Americans should cry "Save the Pharmacopœia."

While antagonism to the principles of the pharmacopœia is serious, ignorance and indifference towards it is of a graver aspect. Too many medical men administer medicines without a knowledge of, or without regard to the pharmacopœia. It is seldom a living part of the practitioner's armamentarium. Buyers and sellers of medicine only respect it to the extent that they may keep "within the law." In drug stores it has been stated that they could get along without it. The college student may "cram" up on the definitions of the pharmacopœia, but he has no real knowledge or care as to its philosophy, or the principles which underlie and make it what it is.

Whatever else the graduate in pharmacy may know, he should not receive a degree until he can show a knowledge of the history and fundamental principles of the pharmacopœia. In all departments of life we find that at this time there is a revolt, a hostility against that which has the sanction of the past. There is a craze for innovations.

In this struggle the pharmacopœia should steadfastly be maintained, true to its traditions, true to its principles. The pharmacopœia is the hope of pharmacy, the hope of medicine—let it be ours to see that it does not perish.

THE SPIRIT OF REVISION.

The direct charge has been made that the pharmacopœia has become commercialized, that the dominant influence has been that of the manufacturer and the purveyor of medicines. The oft-repeated statement that pharmacy has become commercialized is a statement of fact, and it may be stated likewise with truth that medicine has become commercialized.

In these days, costs, expenses, incomes, profits are before us with increasing intensity.

Whatever a man may wish to do it is a preliminary consideration that his achievements must have a money value. No matter how gifted he may be, he must turn his powers into coin or he cannot use them. We live in a day where the getting and keeping of money is the superior gift to which all others must bow.

Through pharmacy the spirit of gain has, in some measures, run like a choking weed. The same condition is apparent in the status of the medical profession. Nowadays a doctor is simply one of the many engaged in the fierce struggle for existence, in the race for wealth. It is not to be inferred that much good has not been achieved in the struggle for gain. We cannot deny the achievement of commercial pharmacy, of commercial chemistry, nor should we detract one jot from the wonderful achievements of the worthy specialists in medicine and surgery.

The point to be urged is that where the gain and profit is to subordinate all other ends, our work is crippled. In approaching such a task as the revision of the pharmacopœia, we must hope that the spirit of gain which rules our lives will emerge as a spirit of service.

Gain in one branch of the trade as against another, gain in one class of medicine or pharmacy over another class, the preëminence of any college, school or clique must be made to disappear.

While recognizing the commercial conditions which surround the making, selling and administration of medicine, we must approach our task seriously in the spirit of service. The mission of the pharmacopœia is to serve the art of healing, to serve mankind. The ultimate end to which the application of the pharmacopœia is designed is that of the suffering patient. In pharmacy and in medicine more than in any other art in making a thing a better thing or an old thing in a better way, we are doing a good that shall never pass away.

The recognition of the spirit of service above the spirit of gain in the revision of the pharmacopœia is full of promise. It is with this spirit we must look to its uplift, its moving forward and its permanency.

MAKING MONEY OUT OF "BUGS," BY USING INFORMATION FROM "UNCLE SAM."¹

BY GEORGE M. BERINGER, JR., P.D.

CAMDEN, N. J.

"Mister! Gimme sumthin good for bedbugs. They nearly et my little Jimmy up last night," or "Can't you recommend something for roaches? I don't have any, but my next-door neighbor is housecleaning and they are coming to me in droves."

¹ Read before the New Jersey Pharmaceutical Association at its annual session, June, 1919.

Such are the complaints with which the druggist is continually having to deal. Often, I fear, his answers are based upon popular ideas that have but little or no scientific value and which are, in many cases, absolutely worthless. The subject is one which is important enough for a more careful consideration. The pharmacist who knows what he is talking about, in the matter of insecticides, can surely build up a trade in that line which will give him handsome returns. He can acquire the necessary information with little effort and practically no cost. "Uncle Sam" will furnish it through the Department of Agriculture.²

Every live pharmacist should have his name on the list of the Department of Agriculture to receive its monthly list of publications. For the price of a post card, he can have information regarding not only insecticides, but also regarding diseases of plants, cattle, domestic fowl and the remedies for such diseases, and regarding drug plants, wild and cultivated, and a host of other subjects of which he never dreamed. The man with a country store would, of course, profit most largely by this information. I have noticed, however, that when a countryman drops into the store of a city druggist for something not kept by his rural confrère, his interest is very easily gained if the city man can show him that he is interested in the problems that concern him and can intelligently offer suggestions. A country customer, so won, advertises such a store to his neighbors, and soon there is built up a clientele that could be had in no other way.

The use of insecticides, as usually considered, may be grouped under two heads, for the destruction of household vermin and for the destruction of insects infesting plants. This paper will be confined to the consideration of such insecticides as are used for the destruction of household vermin. In this part of the country there are but three kinds of insects which give much trouble in the household—bedbugs, roaches and moths.

When used against bedbugs:

Hydrocarbon oils, as gasoline and kerosene, and preparations consisting largely of the same, are 100 per cent. efficient.³

Kerosene proves the better by reason of the fact that it

² This paper is based upon Bulletins Nos. 701 and 771 of the Department of Agriculture, together with a few observations of the writer.

³ Wherever "efficient" is used in this paper, it is to be understood to mean that such a percentage of the insects used in a test were destroyed.

destroys the vitality of the eggs, gasoline being less efficient, apparently because of its greater volatility.

Coal-tar-cresote emulsions, *i. e.*, preparations of the type of creolin, are 100 per cent. effective when used undiluted, but are not very valuable when diluted, as they must be in practical application.

Mercuric chloride, in 6 per cent. solution and in powder, is 100 per cent. effective. It is too poisonous, especially in the powder form, for promiscuous use.

Pyrethrum powder is very effective. If the powder contains much stem, it is worthless.

Turpentine oil is 100 per cent. effective.

Sabadilla seed in powder is 100 per cent. effective. This is often used for destroying body lice, but is not generally known to have value in destroying bedbugs.

Sulphur, when burned, under proper conditions, at the rate of one pound to a thousand cubic feet of space, is effective against both bugs and eggs.

Among substances popularly supposed to be of value, but which tests prove to be worthless or nearly so, are:

Paraformaldehyde, even when used in the proportion of two and one quarter pounds to one thousand cubic feet of space.

Formaldehyde, diluted 1-14 and used as a spray.

Sodium fluoride.

Paris Green.

When used against roaches:

Sodium fluoride is 100 per cent. effective, and, even diluted with inert powders to 18 per cent. strength, is still very effective.

Hydrocarbon oils, as gasoline and kerosene, and preparations consisting largely of the same, are effective if they come in contact with the insect. Roaches, however, are not obliging enough to come out of hiding in any considerable numbers except at night and when left alone. For this reason, the use of such substances is in the same category as catching a bird by putting salt on its tail.

Among substances popularly supposed to be effective, but which tests failed to prove as efficient as the above are:

Borax, partially effective, but slow.

Phosphorus pastes, partially effective, but slow.

When used against moths:

Naphthalene is very effective in killing adult moths, larvæ and eggs.

Camphor is very effective, but less so than naphthalene.

Cedar chests prove to have power to kill adult moths and young larvæ.

Cedar chips give some protection, but are not entirely effective.

Cedar leaf oil is very effective.

Pyrethrum powder is 100 per cent. effective on larvæ and is an excellent protective.

Kerosene and gasoline are effective, gasoline, in particular, killing the eggs.

Strong soap suds will kill larvæ and eggs on flannel.

Sulphur, when burned, is partially effective.

Heat, in an oven, at 110° F. for 31 minutes is effective.

Hot water at 140° F. for 10 seconds is very effective.

Powdered cloves appear to have considerable value.

Among substances generally supposed to have value, but proving ineffective in tests are:

Lavender flowers, though the oil of Lavender flowers has some value as a protective.

Of all the commonly used household insecticides, pyrethrum powder has, probably, the widest range of effective application. It would be more popular than it is, were it not that many facts regarding its use, preparation and storage are not well understood. To be effective, pyrethrum must be in a very fine powder. Contrary to general belief, it acts as a contact poison and it is not necessary for it to be eaten by the insect. Supposedly, it gets into the insect system through minute breathing pores along the sides of the body. For this reason, the more dust made in the air, when applying it, the better the result. It does not kill the insect immediately, but does produce a sort of paralysis at once. Death is none the less certain, however. Stems, no matter how finely powdered, are worthless. Flowers collected with long stems are sure to produce a very inferior powder if the stems are ground with them. The same is true, of course, if stems are added during or after grinding.

Pyrethrum, in powder at least, does not retain its strength indefinitely. Both whole flower heads and powdered have been found to retain their activity for about three years. Powdered flowers

have been found to have lost their activity when kept for five and one half years. The powder should be kept in tightly closed containers, as the powdered flowers, exposed to the atmosphere in a room for 136 weeks, were found to have lost considerable of their value. Exposure to weather for 21 weeks also greatly reduced their efficiency. High temperatures have been found to be deleterious.

PHARMACY AND PUBLICITY.¹

BY E. G. EBERLE, PH.M.,
PHILADELPHIA, PA.

No one doubts that publicity has educational value and shapes public opinion. Advertisements conveying messages impress the minds of individuals, editorials shape the thoughts of citizens, and important and sensational news items interest the readers. The importance of publicity as an influential factor in shaping public opinion can hardly be overestimated.

The lasting impression or effect of publicity depends upon the value of that to which publicity is given in the affairs of men and nations, and the accuracy or truthfulness of the statements. But no matter how untruthful the latter may be, the average citizen does not investigate but accepts as truth that which appears in print. Whether right or wrong, the public estimate of occurrences, of aims and purposes, of government, business and professions, does not always conform to facts. The absence of proper conception or exact knowledge leads to acts which do injury and develop a prejudiced estimate.

Druggists are engaged in a semi-professional business which has many ramifications and its activities come into contact with trades and professions. The former use methods of competition, while the latter, not infrequently, hold themselves aloof from the more intimate relations which should exist.

Not only the complexity of the drug business, but the fact that the dispensing of medicines must be regulated, stimulates national and state legislators' legislative propensities. The enacted laws are not infrequently framed on erroneous views or misinformation.

¹ Read at the annual meeting of the Pennsylvania Pharmaceutical Association, 1919.

The few points made could be multiplied, but are simply intended to emphasize the necessity for publicity on the part of pharmacists,—publicity which is truthful and will lead to a better understanding by the public of pharmacy and the drug business, also to direct attention to the need of correcting misstatements which so often go unchallenged and hence are accepted by the laity as truths. The fact that pharmacists were practically ignored in the Service was largely due to deficient publicity. The multiplex federal taxation, the methods of regulations applying to revenue laws concerned with narcotics and alcohol are in a degree tinged by misunderstanding and deficient knowledge on the part of legislators.

Along these lines Chairman H. V. Army, of the Committee on Federation A. Ph. A., states in Bulletin No. 3:

"We have talked a great deal about the remarkable influence of the American Medical Association, and on analysis we find that the cause of its power is publicity. We have wondered at the remarkable achievement of the American Chemical Society in developing public opinion to the extent of establishing a chemical corps in the Army, and when we seek the main factor of success we find publicity.

"We pharmacists ask ourselves why the Edmonds' bill does not pass; why the will of one man in the Medical Corps thwarts the efforts of thousands of pharmacists; why the chemical corps gets credit for pharmaceutical work done by a pharmacist in the corps, and our answer is lack of publicity.

"A federated committee with funds sufficient to conduct the work of furnishing the daily press with news items relating to pharmaceutical progress is essential if American pharmacy is to come into its own, and the creation of such a committee would be the most practical step toward the federation of pharmaceutical bodies."

Preparation for such coördinated and coöperative work takes time, but pharmacists and state associations can at once do a great deal in improving conditions and correcting false statements which are given out as truthful information. The assertion that pharmacists were not adequately prepared by education and training for services rendered by their fraters in continental armies has been a large contributory cause for non-recognition of pharmaceutical service, notwithstanding the fact that absolutely unqualified men were in some instances assigned duties wherein pharmaceutical education and training were necessary. Unfortunately the medical men

did not enthusiastically help in correcting these conditions, and it is this indifference which tends to retard the advance of pharmacy so essential for the advancement of medicine. When an unprejudiced analysis is made of existing conditions in pharmacy, and medicine also, for that matter, it will be found that the aloofness of the medical profession is a contributory cause. The people have a right to demand a service from the coöperative endeavor of medicine and pharmacy. These professions have been granted special privileges because they serve the public, and the latter has a right to expect and investigate their coöperation. There is a widening field of medical science before us, developed by the experiences of the world war. There should be helpful publicity, coördination and coöperation of all engaged in the activities concerned with medicine.

Statements of officials and of the press that are derogatory to pharmacy too frequently go unchallenged. The advertisements of manufacturers sometimes cast aspersions on the drug trade, and then these same manufacturers, in language that does not evidence sincerity, seek the coöperation of the drug trade. Such two-faced methods should be exposed. Without regard for actual facts assertions are made relative to methods employed in drug stores, instances of violation are given general application, but seldom is a corrected statement accorded the same publicity as that of the sensational item. The deplorable acts of an individual who is an out-cast as far as pharmacy is concerned are made the thundering charges against all engaged in pharmacy. This should not be so; publicity is needed.

And now with the general prohibition of the sale of alcoholics, druggists will have a serious condition to meet which will require their most careful thought, sincere patriotism and loyalty to the profession of pharmacy. They, unfortunately, will practically alone have the right to dispense alcoholic beverages, as medicine, and every device and scheme known to the ingenuity of man will be tried in tempting their strict adherence to their obligations. The majority will stand the test; some will fall, and then a general application of violation of trust will be made. Preparations must be made to meet the exigency rightly, or pharmacy will seriously suffer. In this, as in the sale of narcotics, conscienceless physicians will join in order to profit. It is time physicians and pharmacists and their associations coöperate to correct these despicable methods of traffic. A more intimate acquaintance will prove that the sincere in both professions desire to serve honorably and well.

This paper was hurriedly written in order to fulfil a promise, but the writer believes it conveys a message which the members of the association can discuss with profit to themselves, the association, and pharmacists generally.

COÖPERATION AS WELL AS ORGANIZATION.¹

BY J. W. ENGLAND, PH.M.,
PHILADELPHIA, PA.

What is most needed to-day in American pharmacy is unity of effort—not only better national organization, not only better state organization, but also better national and state coöperation.

The state bodies can and do take care of state interests, and successfully, but there are many questions of state interest that are of national importance, and many of national importance that are of state interest. In other words, the interests of each are the interests of both; they are interdependent.

The wonderful success of the American Medical Association as the spokesman of American Medicine has been due to its recognition of the vital importance of national and state affiliation, and to its campaigns of publicity, both professionally and to the general public; and American pharmacy may well profit by its example.

The mainspring of pharmacy is the profession of pharmacy. Eliminate this from the drug store and it becomes a drugless drug store.

During the past fifty years, the American drug store has undergone a radical change, and rightly or wrongly, commercial pharmacy has become its dominant feature.

But there are two kinds of commercial pharmacy—a legitimate kind which consists in the buying and selling of drugs and such side lines as reasonably relate to pharmacy, and an illegitimate kind which consists in the buying and selling of almost any class of merchandise that brings money into the till, the pharmacy end of the business being simply incidental.

It is this trend toward illegitimate commercial pharmacy—towards commercialism, pure and simple—that is rapidly becoming

¹ Presented at annual meeting of Pennsylvania Pharmaceutical Association, June, 1919.

a menace to the existence of drug stores. There is a real public need for legitimate commercial pharmacy; in fact, the service of the American drug store in this respect is of the greatest public convenience, but this is a far cry from the illegitimate commercialism that is masquerading in the name of pharmacy, and which is injuring the professional character and standing of retail drug stores with the American public, particularly with the medical profession.

It is hardly worth while discussing the responsibility for this condition. It is here and the problem is how best to meet it. But it may be said in passing that the medical profession is primarily responsible because it has been indifferent to the profession of pharmacy *as a profession*, failing to give it that support and coöperation that was essential for its proper functioning, ignoring the fact that there is a very vital relationship between therapeutics and pharmacy and what affects one will affect the other. The responsibility is due, also, to the economic conditions that have forced retail druggists to depend more and more upon commercialism to eke out a livelihood.

The solution of such a problem—the betterment of the conditions of pharmaceutical practice—is not a state problem merely, it is one that is of interest to the retail druggists of the whole country, and the way to solve it successfully is by state and national coöperation.

There are many other questions of like import. We need, for example, better relations with the medical profession. We want physicians to recognize the importance and usefulness of pharmacy to medicine. We don't want tolerance, but we do want and need the sympathetic support and coöperation of the medical profession with the profession of pharmacy, and the way to get this is by affiliation of the state associations with the American Pharmaceutical Association, which stands preëminently for professional pharmacy, and by the latter with medical organizations.

There are many ways in which such coöperation could be made mutually helpful. For example, there is needed to-day, in the cities and towns of the country, laboratory technicians—experts in bacteriology, biology, radiography, microscopy, clinical chemistry, etc. Pharmacists could readily train as such and be of real service to the medical profession in helping to confirm or solve problems of diagnosis. But such a service would not be used unless it had the endorsement of the medical profession.

Furthermore, the problem of compulsory health insurance legislation, national and state, is looming large on the political horizon,

and unless pharmacists and physicians work together for the protection of medicine and pharmacy both will suffer seriously.

The subject of closer affiliation between the state pharmaceutical associations and the American Pharmaceutical Association should have the fullest and freest consideration from every angle. There should be no hasty action. But it does seem to me that the possibilities of closer affiliation are so obvious that it would be entirely safe, first, for every state pharmaceutical association to approve the general principle of closer affiliation, and second, to appoint the three delegates from the state association (who will represent it in the House of Delegates of the American Pharmaceutical Association) as a Committee on Ways and Means to consider the question fully and report their findings and recommendations at next year's meetings of the state associations; and, if in order, I would suggest such an action by the Pennsylvania Pharmaceutical Association.

The following resolution was unanimously adopted:

"That the Pennsylvania Pharmaceutical Association reapprove the general principle of federation as promulgated by the American Pharmaceutical Association, that we appoint our three delegates to attend the annual convention at New York in August, 1919, and instruct these delegates to state to the convention that the plan of combining the dues (American Pharmaceutical Association and state pharmaceutical associations) on the basis of 100 per cent. membership is not feasible, but that if some feasible plan can be devised for combining the dues and giving State members the publications of the American Pharmaceutical Association, we would approve of the plan."

COMMERCIAL ETHICS.¹

By BURWELL S. CUTLER,

DIRECTOR OF THE BUREAU OF FOREIGN AND DOMESTIC COMMERCE.

It has ever been true that no community of action can be brought about between two or more men without a community of interest. In the absence of an incentive truly mutual, even if not mutually equal, coöperation lags and active relationship between the two parties dies out.

Commerce, defined as an exchange of values, does not eventuate between two traders when one of them can find no value for himself

¹ An address delivered before the Pan American Commercial Conference, Washington, D. C., June 4, 1919. Reprinted from Commerce Reports.

in the transaction. Or having chanced a trade in the hope of finding profit and then being disappointed, he will not continue to trade in that particular direction. Repeat indentures, whether between individuals or between nations, depend wholly and exclusively upon an equity of satisfaction continuously felt and frankly acknowledged.

Although this is so obvious as to be almost trite, yet we must be ever and always reminded of it when we discuss our commercial relations with other nations of the great Pan-American Union, because traders north and south are likely to be thinking of orders only, the passage of merchandise in volume, and not the spirit which creates the trade.

COMMERCIAL TRICKERY BAD SALESMANSHIP—REPEAT ORDERS
ESSENTIAL TO SUCCESS.

There is a belief among the cynical ones of commerce that the hungry buyer will favor with his orders any business house or nation which quotes low prices regardless of the seller's lack of known reliability. I have heard it said that in the Far East, particularly, only commercial speculators, adventurers, or pirates can do business, because they expect to capture from each buyer one order only and are willing to quote any low price on any set of specifications desired, knowing perfectly that their goods are inferior and will be a disappointment on arrival; in other words, it is the policy of commercial trickery. The cynic who thinks such methods are necessary in any part of the world, simply because its people want inexpensive goods, is not only an ignorant economist but totally deficient in salesmanship. As for his morality, he might just as well propose to commit perjury in a court of law; one lie is as bad as the other.

But, of course, we are to think primarily of the well-established business man or his concern whose object is to build up and maintain a continuously agreeable and profitable trade. He knows instinctively that he must have a satisfied customer all of the time. The initial expense of finding the reliable customer, whether he be buyer or seller, frequently adds so much to the overhead cost of the first transaction that no profit remains, and yet he has foreseen this and is prepared to accept it in favor of repeat business free from contingency. Sometimes adverse conditions govern for a long preliminary period; for instance, the financial state of a foreign coun-

try may make the opening of trade depend on financial aid to the buyer, either in the form of loans or merchandise consignments, for a year or more, and this concession takes at least 6 per cent. bodily out of the profits. And our far-sighted merchant consents when able, because he is building up successful trade relations, and is not scheming for one or two profitable orders; he is not making a raid on the market; he is disposing of his output in the years to come.

OVERSTOCKING OF CUSTOMERS OBJECTIONABLE—REPUTABLE
HOUSES SHOULD HAVE PREFERENCE.

In the organization of their sales forces the largest and best concerns of the United States—and this is equally true of like concerns in South America—do not demand of new commercial travelers a great sheaf of orders on their first trips, regardless of consequences; what they do require is a showing on subsequent trips, a constantly growing clientele on the firm ground of satisfaction and confidence. Indeed, I have known salesmen to be summarily dismissed by such concerns for persistently overstocking customers on big orders regular in every way but too forcefully stimulated.

In brief, the responsible concerns of North and South America on whom we depend for Pan-American solidarity, practice a far-sighted system of foreign trading designed for a term of years and predicated on the smiling satisfaction of their customers; speculative order taking has no place in their program.

It must also be said that our South American brothers should prefer their trade relations with North American houses of established high repute, if they want the certainty of fair treatment. For those concerns only are the ones which know they must protect their investment and their good will by judicious settlement of such errors of practice and misunderstanding as may inadvertently occur. It is the experience of the Bureau of Foreign and Domestic Commerce, in its rôle as volunteer mediator of Pan-American trade disputes, that representative North American houses are zealously eager to make the amende honorable every time. On the other hand, irresponsible commercial pirates regard any deal as closed after they have secured their money and they avoid adjudication as a burglar does a police court.

There is no such thing as a superabundance of information about any man or his concern when we are dealing with him for the first

time. Nor will he refuse to report his whole background and history unless he has something to conceal. I wish that the habit of commercial confession, on which North American domestic credits are based, might be emulated in Latin American countries instead of it being so often thought a species of impertinent familiarity.

Of course, there is no morality involved in a transaction when two traders meet each other fortuitously for the secret purpose of tricking each other. When the victim of "horse trading" cries out that the animal he received for his spavined horse was even more spavined and also foundered, the Bureau of Foreign and Domestic Commerce as mediator retires from the paddock with a smile of serene detachment. The Pan-American deserves just what he gets and nothing else.

BODIES FOR ARBITRATION OF TRADE COMPLAINTS.

This leads to mention of the splendid machinery for arbitration of trade complaints set up between the Chamber of Commerce of the United States and the Bolsa Commercial of Buenos Aires. It is a model that should be adopted by every South American country through its leading organizations, for, as I understand it, it provides first for helpful suggestion to the parties in the case, then mediation by locally selected judges, and, finally, in the event of intractability, for judgment in favor of the injured party if one appears. The Bureau of Foreign and Domestic Commerce expects to deliver to this impartial tribunal all complaints that defy friendly mediation after they come to us.

Please do not for even a moment infer from this discussion that we find Pan-American trade relations greatly beset with complaints or difficulties of understanding. As a matter of fact, the course of this trade for several years back, even during troublous war conditions, has been singularly free of conflict. Instead of disputes there has been a constantly augmented flow of warm commercial sympathy and admiration. The official correspondence of the United States Department of Commerce with South America frequently reads like the billet doux of a successful courtship.

NEED OF COMMERCIAL CREED.

But now that we have learned one another's ways and viewpoints, what common tenet of commercial faith may be found, what

creed of ethical value to which all our business interests may adhere? It seems to me that we ought to have a standard, a touchstone by which our mutual trade conduct is measured and guided. The home, the church, and the state acknowledge, each for itself, a platform of moral declaration by which it appeals for support to the peoples of the world. In different lands the articles of faith vary, but they never deviate from the supreme purpose of inculcating a common morality in accordance with the best thought of the land. The great institution which we call business deserves such a creed, so that men north and south may acknowledge it, just as most of us acknowledge allegiance to the Ten Commandments of Moses, a creed to which the guardians of economic integrity—and every honest business man is such a guardian—to which he may point and say, "You may count upon me to follow that ideal so far as it is humanly possible." It would then be possible for us to hold up any phase of business conduct to the creed and to determine how far it followed the ideal or departed from it. It would mean that in the very beginning of a transaction the several parties involved would accept the guiding principles in which they could concur without debate and thereby clear the ground of any basic misunderstanding before actual trade ensued. It would mean the same unity of spirit and purpose that actuates all the members of a church or of a political party. It would satisfy the intense longing of the honest and capable business men within the realm of the Pan-American Union to know each other better so that coördinated business conduct is made easy and pleasant.

Needless to say, the adoption of such a creed would automatically exclude from our confidence those individuals who could not or would not subscribe to its articles.

Without doubt there exists in the minds of most good business men a list of non-ethical practices which are known to commerce but are abominated. These frequently take the form of prohibitions expressed in negative terms, such as a resolution that we will not attempt to ruin another man's market by the process of selling goods below cost next door to our competitor's best customer for the sole purpose of annihilating that competitor and his customer at any cost. Likewise, no good management will throw a hard-pressed dealer into bankruptcy for the purpose of stealing his business. Neither will a good management secretly bribe a customer's purchasing agent to take goods of inferior quality at high prices. No

good management should deliberately hire away the valuable employees of another concern for the purpose of crippling it; this is an evil which is too prevalent now and would be abolished if there could be an agreement on its unmoral character. No good management thinks it permissible to adulterate the goods of a competitor and then to sell as of representative value in order to damn the competitor in the eyes of his regular trade. Even the practice of selling second grades or so-called job lots at properly reduced prices may be considered justifiable only when the goods are indelibly marked for recognition as to second quality by the consumer.

There is no need to recite the entire list of tricky practices which the high-minded commercial men of North and South America condemn as individuals. These, however, might be carefully rehearsed and written down and by a process of studious analysis reduced to several fundamental prohibitions in principles on which Pan-American agreement could be expected. I would, however, be in favor of an explicit and detailed exhibit of those practices as the first step in formulation of the creed, so that the underlying principles would be thoroughly apprehended by those people who need daily direction in the same way that the great moralist Moses gave it to them.

Practically all instances of suspicion directed against a customer or competitor as to his motives would completely disappear if we knew that he had pledged himself to a code that we ourselves support.

Further, let me say that business should explain to the world the irresistible economic laws on which it is founded; it should encourage and advertise the superb morality of its directing heads; it should formulate and profess a creed appropriate to the commercial idealism of the day, and it might, with great profit, define a code of business honor which good business everywhere would gladly embrace for its own protection.

BUSINESS INTEGRITY TO REPLACE CREDITS DESTROYED BY WAR.

At this particular juncture of world affairs, when we may count the loss by war of \$250,000,000,000 worth of accumulated credit, representing the earnings of millions of people during the last century, we must look forward to commercial operations based on future earning capacity. The credits and the negotiable values

which were available to us in July of 1914 have been diverted to other uses or have completely disappeared. This is primarily true of Europe, but its effects are even now being directly felt in the new world. From now on commercial credits and confidence will be based, to a large degree, on the future earning power of the people in all parts of the world. Those countries which have been wholly occupied in warfare will be called upon to redeem the inflated currency issued by their governments; they will be called upon to produce raw materials and finished commodities in such volume that a surplus over their own normal needs will accumulate and be translated into financial credits. In other words, only a part of a nation's fiscal strength will be found in values now existing. Since our dependence for the resumption and expansion of commerce will depend very largely on the future ability of peoples to earn an excess livelihood, and since we must accept promises to pay at a future date instead of demanding immediate delivery of gold, we are in the position of relying on the moral integrity of business interests everywhere to make good their promises. Could any time, therefore, be more propitious for the formulation of moral values in business and for a complete comprehension and acceptance of a code of honor binding us closer together and making of the peoples within the realm of the Pan-American Union an economic unit working for their common salvation?

A NEW FORM OF CALOMEL.¹

A new method of preparing calomel in a bulky and therapeutically highly active form has been devised by Duret, and particulars of the new form are given in the "*Annales de l'Institut Pasteur*." In view of the importance attached to the use of calomel, in the shape of an ointment and also of hypodermic injections, his process and conclusions are of particular interest. The method is based on the following reactions: Sodium bicarbonate reacts with magnesium chloride to form sodium chloride and magnesium bicarbonate. Hydrochloric acid (liberated by the reduction of mercuric chloride) reacts with the magnesium bicarbonate thus formed to yield, again, magnesium chloride; simultaneously the mercuric chloride present

¹ Reprinted from *The Chemist and Druggist*, June 7, 1919.

is reduced to mercurous chloride. The details are as follows: A solution of

Sodium bicarbonate	6 grams.
Pure glucose	10 "
Distilled water	80 "

is added to a solution of crystalline magnesium chloride, 7.5 Gms. in 20 Gms. of distilled water. This mixture is then added to the following solution, contained in a flask of 500 Cc. capacity:

Mercuric chloride	11.5 grams.
Hydrochloric acid (33.65 per cent.)	10 drops.
Distilled water	100 grams.

Carbon dioxide is liberated, while mercurous chloride is precipitated in a very finely divided state. To complete the reaction, the flask is heated on a water-bath, with constant agitation until no more gas is evolved. It is then allowed to cool, filtered, and the precipitated mercurous chloride is washed with cold distilled water. This formula yields about 10 Gms. of calomel, in a form three times bulkier than the ordinary preparation. The amounts given must be strictly adhered to, as an excess of magnesium bicarbonate would yield magnesium carbonate mixed with the calomel; while an insufficient amount of magnesium bicarbonate would result in leaving unchanged a portion of the mercuric chloride. Tests which were conducted by the author showed that the calomel obtained by this method is ionized in water to a greater extent than the ordinary product (tested with diphenylcarbaid and sodium monosulphide), and for this reason its therapeutic activity is also greater. Experiments showed that this finely divided calomel, in the presence of organic substances, was dissociated into metallic mercury in a state of extremely fine subdivision; consequently by this method is it possible to employ mercury *in statu nascendi*, thus assuring its rapid absorption. For its application as calomel ointment the author gives the following formula:

Precipitated calomel (obtained by above process) ..	10	grams.
Crystalline magnesium chloride	10	"
Sodium bicarbonate	7	"
Thymol	0.15	"
Camphor	0.35	"
Arachis oil	15	"
Glycerite of starch	15	"
Anhydrous lanolin	20	"
Distilled water	25	"

The magnesium chloride, sodium bicarbonate and water are mixed in a mortar, the precipitated calomel added, and then the glycerite of starch. Melt by gentle heat the anhydrous lanolin in 10 Gms. of arachis oil, add the thymol and camphor previously dissolved in 5 Gms. of arachis oil, and while liquid add the whole to the first mixture, and heat until a homogeneous ointment is obtained.

For the hypodermic injection of calomel the following formula is given:

Mercuric chloride	5.75 grams.
Hydrochloric acid (33.65 per cent.)	5 drops.
Glucose	5 grams.
Sodium bicarbonate	3 "
Crystalline magnesium chloride	3.75 "
Distilled water	20 "
Syrup to	100 Cc.

Dissolve in a flask of 200 Cc. capacity the mercuric chloride, by warming, in the distilled water to which the hydrochloric acid has been added, then add the glucose. Mix, in a porcelain capsule, the sodium bicarbonate with about 50 Gms. of syrup, add the magnesium chloride and mix. Now add the mixture to the contents of the flask. The capsule is repeatedly rinsed with small amounts of syrup, which are added to the flask. Shake and warm on a water-bath until the evolution of gas has almost ceased; allow to cool, and add sufficient syrup to produce 100 Cc. This yields 5 Gms. of calomel (1 Cc. = 0.05 Gms. of calomel) in extremely fine subdivision, which keeps for a long time in suspension.

To avoid the pain which follows the injection of calomel, and which is due to the liberation of free hydrochloric acid, the following modification is employed:

Mercuric chloride	6.775 grams.
Hydrochloric acid (33.65 per cent.)	5 drops.
Glucose	5 grams.
Sodium bicarbonate	8.65 "
Crystalline magnesium chloride	10.5 "
Distilled water	25 "
Syrup to	100 Cc.

Of the above, 1 Cc. corresponds to 0.06 Gm. of calomel.

QUANTITATIVE DETERMINATION OF OXYMETHYLANTHRAQUINONES.¹

Four methods for the determination of the oxymethylantraquinones in such drugs as rhubarb, senna, etc., have been suggested. They are: (1) Spectroscopical, (2) colorimetric without colorimeter, (3) colorimetric with colorimeter, and (4) gravimetric by precipitation by azonitroaniline. The method now proposed depends upon the hydrolysis of the glucosides of the oxymethylantraquinones and the separation of the latter in such a state of purity that they can be weighed. As the glucosides are sensitive to heat, hydrolysis is effected at the boiling point of chloroform. The determination is effected as follows: A weighed quantity of the finely powdered drug (about 2 Gm. of rhubarb, 5 Gm. of senna), dried at 60°-70°, is introduced into a short-necked flat-bottomed flask and 200 Cc. of dry chloroform added; the whole is weighed and boiled under a reflux condenser for fifteen minutes. When quite cold the chloroformic solution is filtered off and the residual drug washed. The solution is shaken with a 5 per cent. solution of caustic soda, which is separated, washed with chloroform, acidified with hydrochloric acid, again shaken with chloroform, and the chloroformic solution separated, filtered, evaporated to dryness, and the residue weighed. This is the weight of the free oxymethylantraquinones. The residual drug (after boiling with chloroform) is carefully returned to the flask and make up to the original weight with chloroform. Fifty Cc. of 25 per cent. sulphuric acid are added, and the whole weighed. The mixture is then boiled on a water-bath for 2½ hours, shaking from time to time. After cooling, the weight is made up with chloroform, the whole transferred to a separating funnel, and about 150 Cc. of the chloroformic solution separated. This is shaken first with 50 Cc. of a 10 per cent. solution of sodium bisulphite, separated, and filtered through kieselguhr and shaken with 100 Cc. of 1 per cent. hydrochloric acid. One hundred Cc. of the chloroformic solution are then evaporated to dryness, and the residue weighed, from which the percentage of the combined oxymethylantraquinones can be calculated. Rhapontic rhubarb was found to contain 3.18 to 3.95 per cent. combined and 0.24 to 0.28 free oxymethylantraquinones, senna 1.98 to 2.12, total and cascara 1.32 to 1.47 total oxymethylantraquinones.

¹ *Journ. de Belgique*, 1, 200. Reprinted from *The Pharm. Jour. and Pharmacist*, April 26, 1919.

THE HESS HOME-MADE MILK REFRIGERATOR.¹

Milk that is not kept cold is a dangerous food for babies. Every minute that the milk is much above the temperature of ice the germs of disease are increasing in it at an alarming rate. Very many babies die of summer complaint merely because they have been given milk that has stood for hours in a warm room. Keeping the bottle in a refrigerator containing a small piece of ice, does not make milk a safe food, for the temperature in these boxes is often 55 to 60 degrees Fahrenheit; that is, far above the freezing point.

Many mothers who have refrigerators are unable to buy enough ice in summer to preserve the milk in them for twenty-four hours. This should not be, for anyone can make at home a cheap but excellent milk refrigerator, requiring very little ice. A simple refrigerator of this kind uses less than five cents' worth of ice every day, keeps the milk below 40 degrees (that is near freezing point) so that mothers having one may be sure that the warm weather cannot spoil the baby's milk. Such an ice box is, therefore, economical, and protects the baby.

How to Make One.—Get a wooden box at a grocery store; such as a soap box, fifteen inches in depth. Buy a covered earthenware crock, tall enough to hold a quart bottle of milk. Also get a piece of oilcloth or linoleum about a foot wide and three feet long. Sew the ends together to make a cylinder which will fit loosely around the crock. Place the crock inside the oilcloth cylinder, and stand them in the center of the box. Now pack sawdust or excelsior beneath and all about them to keep the heat from getting in. Complete the refrigerator by nailing a Sunday paper or two other newspapers to the wooden cover of the box. *It is now ready for use.*

How to Use It.—In the morning as soon as you receive the milk, place it in the crock; crack five cents' worth of ice and place it about the milk bottle. Place the cover on the crock and the lid on the wooden box. No matter how hot the day has been, you will find some unmelted ice in the crock the next morning. Remove the crock every morning to pour off the melted ice.

¹ Reprinted from *Public Health News*, July (the monthly publication of the Department of Health of New Jersey).

PHILADELPHIA COLLEGE OF PHARMACY.

MINUTES OF THE QUARTERLY MEETING.

The quarterly meeting of the college was held June 30 at 4 P.M., in the library, president, Howard B. French, presiding.

President French reported the progress made toward securing an amendment to the charter of the college. Public notice had been given in the daily papers and the matter was entered in Common Pleas Court, Number 1192, June term, 1878.

Professor Charles H. La Wall for the delegates to the meeting of the Pennsylvania Pharmaceutical Association at Buena Vista reported. The meeting was particularly noticeable for the large number of the faculty of the college and members of the board of trustees in attendance, nine members of the faculty and seven members of the board were present, Philadelphia was also well represented. Thirty-seven papers were read, twelve of these being contributed by members of the college. The papers by Professor H. W. Youngken, Professor Joseph W. Ehman and Professor P. S. Pittenger were especially noteworthy. Real progressive work was accomplished, harmony prevailed, and the college has reason to be proud for its share in the proceedings. Professor Robert P. Fischelis, of the college, was elected president.

Mr. George M. Beringer for the delegates to the New Jersey Pharmaceutical Association, reported that the meeting was held at Atlantic City, June 10-13. Despite the many attractions that Atlantic City offers to lessen the attendance, the meetings were full of interest. Papers were read on popular subjects—Legislation, national and state, the Conditions of Pharmacy and other matters of interest were discussed. The New Jersey Association is the oldest of all the state associations and prides itself, justly, on this account. It will be fifty years old next year and the golden anniversary will be held in Newark, in which city the initial meeting was held. Mr. Edward A. Sayre, a former president, was again chosen president.

Dr. A. W. Miller, for the delegates to the Delaware Pharmaceutical Association, reported that the meeting was held at Wilmington on June 5. The association was a small one, and the attendance was lessened because of the scarcity of drug clerks. No scientific papers were presented, the meeting being mainly one for

business. After luncheon a visit was made to the Brandywine Cemetery, when Dr. Miller gave them a talk on the many remarkable trees and plants for which the cemetery is noted.

President French read from *Poulson's American Advertiser* of date December 29, 1821, a long advertisement inserted by the officers of the college, telling of existing evils in the drug trade of that time and outlining the first steps taken towards the formation of the College of Apothecaries (the early name for the college); also a lengthy advertisement along the same lines from the *National Gazette*, three years later. The reading was eagerly listened to by the members.

Professor H. W. Youngken presented two specimens of the *Colocasia esculenta*, commonly called "dasheen." The plants had been cultivated in the roof garden of the college. The tubers are used as food, like the potato, in the tropics and some of the southern states.

Professor E. F. Cook said this was a fitting time to speak words of commendation for the improved conditions in the AMERICAN JOURNAL OF PHARMACY. He had heard many expressions of appreciation because of the high character and scientific interest of its contents.

Seven applications for active and one for associate membership were read and referred to the Committee on Membership.

The Committee on Membership presented a supplemental report giving the increase in members for the past three years. Continued efforts would be made to add to the gratifying increase of the past few years.

President French made the following appointments:

Committee on Nominations.—Charles H. La Wall, Wm. L. Cliffe, Joseph W. England, Charles F. Liebert, with E. F. Cook, chairman.

Delegates to the Meeting of the American Pharmaceutical Association at New York, beginning August 25.—Charles H. La Wall, E. F. Cook, J. W. Sturmer, C. B. Lowe, F. X. Moerk, F. P. Stroup, John K. Thum, H. W. Youngken.

Delegates to the Conference of Pharmaceutical Faculties.—Charles H. La Wall, F. P. Stroup, J. W. Sturmer.

C. A. WEIDEMANN, M.D.,

Secretary.

ANNUAL MEETING OF THE NATIONAL PHARMACEUTICAL SERVICE ASSOCIATION.

By E. FULLERTON COOK, *Secretary.*

The annual meeting of the National Pharmaceutical Service Association was held at 145 North Tenth Street, Philadelphia, on the evening of June 30, 1919.

The secretary presented his annual report, briefly reviewing the activities of the association. Attention was called to the many hundreds of petitions sent to the Committee on Military Affairs of the House of Representatives from all parts of the United States in the interest of the Edmonds Bill, together with many personal telegrams and letters from prominent pharmacists, physicians, parents of men in the military service, and many public men. Considerable newspaper activity was also secured in various parts of the country.

Although the Edmonds Bill did not pass in the last session of Congress, it has been reintroduced and arrangements are being made for a conference during the annual meeting of the American Pharmaceutical Association, so that all who are interested in securing such legislation may have an opportunity to express their views, and determine what modifications may be necessary. At this meeting there will also be considered the Naval Bill introduced by Hon. George P. Darrow, for the establishment of permanent commissions in the Hospital Corps of the Navy, and it is hoped that Congressmen Edmonds and Darrow, and officials of the Navy can be present to advise with and give us the benefit of their experience.

The treasurer presented his annual report, and in setting forth the finances of the association since its establishment, stated that the printing expenses have totaled \$555.56, postage \$394.59, expense of presenting the cause of military pharmacist to other associations \$178.55, and the cost of a stenographer in the office, \$807.50, with office furniture and typewriter rental \$29.95, these totaled an expenditure of \$1,966.15. The number of those who have failed to renew their membership since the signing of the armistice has been disappointing, and as shown by the treasurer's report, the necessary expenses in conducting this work is comparatively large.

The officers have given liberally of their time and services and it is strongly urged that the rank and file of pharmacy support the new officers in the propaganda which must be conducted actively during the present term of Congress if we can hope for success.

It is hoped that before the New York meeting of the American Pharmaceutical Association a conference can be held with the office of the Surgeon-General of the Army, so that the army viewpoint of such legislation can be properly presented at the meeting.

The reports from the Ohio Branch of the National Pharmaceutical Service Association were most gratifying and showed an intense interest in the cause of military pharmacists. About 200 members of this branch have recently renewed their allegiance and the activities of this branch were commended.

The election of officers for the ensuing year resulted as follows:

President—Dr. Frank Cain, Cincinnati.

Vice-President—Caswell A. Mayo, Cincinnati.

Secretary—E. Fullerton Cook, Philadelphia.

Treasurer—Josiah C. Peacock, Philadelphia.

Executive Committee—George M. Beringer, Camden, N. J.; Robert P. Fischelis, Philadelphia, Pa.; Eugene G. Eberle, Philadelphia, Pa.; William D. Robinson, Philadelphia, Pa.; Theo. D. Wetterstroem, Cincinnati, Ohio; Jeannot Hostmann, New York City, N. Y.; Henry Kraemer, Ann Arbor, Mich.; Charles H. LaWall, Philadelphia, Pa.; Edwin L. Newcomb, Minneapolis, Minn.

A motion of appreciation to the medical friends who have been helping the association in the effort to secure proper ranking for pharmacists in the army was unanimously approved. It was suggested that if possible, a meeting of the National Pharmaceutical Service Association be held at the New York meeting of the American Pharmaceutical Association and after the president's reception on Wednesday evening was suggested as an appropriate time. A committee consisting of Messrs. Hunsberger and Eberle were appointed by the president to audit the treasurer's accounts.

FRANKLIN MUHLENBERG APPLE, PH.G., PHAR.D.

BY JOSIAH C. PEACOCK.

The many friends of the subject of this sketch were severely shocked by the news of his sudden demise at his late residence in Philadelphia, on the morning of July 9.

Franklin Muhlenberg Apple was a son of the late Reverend B. F. Apple and Ella P. Apple, and was descended from sturdy an-

cestry on both sides. He was born at Centerville, Northampton County, Pennsylvania, on February 14, 1870. He graduated from the Bangor High School, Bangor, Pa., in 1885, and immediately thereafter entered the drug business.

Later, he came to Philadelphia and engaged himself with his cousin, the late Milton S. Apple, in whose pharmacy he remained during his college course. He matriculated at the Philadelphia College of Pharmacy in 1888, and graduated from this institution in 1890. He was awarded the Alumni Association Prize Certificate for the highest percentage shown by his class in the recognition of specimens; and this award carried with it the additional honor of being the highest mark attained to that time in the competition for this prize.

As a student, he was eager to learn and anxious to apply. His thesis, "Glycerita," was selected by him as a means to apply and profit by the instruction which he had received. The writer first met him as a neighbor on the benches of the Philadelphia College of Pharmacy, and then appraised him as a youth of steadfast purpose and of sterling qualities; and an acquaintance of over thirty years has only served to strengthen that opinion.

In the autumn of 1890 he was engaged by Professor S. P. Sadtler as assistant in the Chemical Laboratory of the University of Pennsylvania, and here he continued until the following spring, when he purchased a drug store at Seventeenth and York Streets, this city.

In 1894 he married Mary E. Hess, of Centerville, Pa., and her practical ability has always been a great help to him. His conscientious efforts as a pharmacist were soon rewarded, for he rapidly built a substantial business, and soon acquired a second store.

But his strength was not equal to the burden which he had assumed and because of ill health he decided to dispose of his stores and try another occupation; accordingly he sold his business in 1899.

For somewhat over a year following this change, he was a representative of the Horlick Company in Philadelphia, and during this time he was studying the relations between physicians and pharmacists; all the while gathering much information during his visits to the medical practitioners. This experience led him to give much careful thought to the matter of refilling prescriptions. But his problems were too intimately connected with the actual practice of pharmacy to be perfected outside of it, and they brought him back

into the service in 1901, at which time he bought the pharmacy at Thirty-first and Berks Streets, Philadelphia. Here he put into practice many of the things with which he was deeply concerned. Among these was his "Square Deal Prescription Blank," so arranged that the physician would clearly show a willingness or objection to a renewal. And it is conceded that his efforts along this line proved to be a great impetus toward a better understanding and regulation of the refilling of prescriptions. He devoted much time and labor to the propaganda on U. S. P. and N. F. preparations which the newly appearing revisions of these authorities made quite desirable at that period.

He was a member of the Pennsylvania Pharmaceutical Association, the American Pharmaceutical Association, also its Philadelphia Branch, and of the National Pharmaceutical Service Association. During the time he was a proprietor he was a member of the Philadelphia Association of Retail Druggists and of the National Association of Retail Druggists.

From the date of his return to the art, he showed his real interest in it through his contributions to pharmaceutical literature. These were numerous and covered a wide range of subjects. He was awarded the Pennsylvania Pharmaceutical Association prize for one of his papers. He was active in the committee work of the various associations. He was Chairman of the Section on Practical Pharmacy and Dispensing of the American Pharmaceutical Association in 1907-1908; chairman of the Section on Commercial Interests, of the same body, in 1910-1911; first vice-president of the American Pharmaceutical Association in 1913-1914; and a member of the council of that organization for several years thereafter. His activities and appeals for the elevation of pharmacy attracted the attention of the Department of Pharmacy of the Medico-Chirurgical College, and he was invited to give instruction there upon the subject of compounding of prescriptions. The careful thought and painstaking efforts with which he conducted this course were recognized by the College, which in 1912 conferred upon him the honorary degree of doctor of pharmacy; while the alumni association of the same school made him an honorary member. But again overtaxed by the constant work and the anxious responsibilities of pharmaceutical service, he succumbed to ill health a second time, and, in 1914, disposed of his business; a move which he very much regretted to make, although he believed that he should from sheer

physical necessity relinquish the work in which he had been so deeply interested. This inability to pursue his chosen labor was known to have been a keen disappointment to him.

Realizing now that he must look for strength and health he put his attention upon athletic and out-of-door exercises; and among other associations devoted to physical welfare, he was at different times a member of the Belfield, Bon Air and Cobb's Creek Golf Clubs. His mind however was not satisfied with these affairs except as recuperative measures; his interest in pharmacy continued uppermost.

At this juncture the work of the Red Cross attracted his attention and enlisted his sympathy and zeal; and for a year and a half he served with Auxiliary No. 13. Here his nicety of work was greatly appreciated, and his conscientious efforts toward improving and standardizing methods and products endeared him to all with whom he came in contact.

As his health was severely tried by the winter climate of his home city, he decided to reside in Florida during the cold months; and from this sojourn his health derived benefit.

Having returned to Philadelphia in the spring of 1918, he determined to render some service closely associated with the needs of the fighting force, so he applied at the Eddystone Works, and for several months was an inspector on rifle work. But the opportunity which his patriotic spirit sought, wherein to do something to help win the war, came when he was appointed inspector of scales at the Woodbury Bag Loading Plant, Woodbury, New Jersey. In this capacity, his trustworthiness and readiness to accept responsibility were soon recognized and he was rapidly promoted to the position of chief of ballistic data and stencils. His services, rendered purely from patriotic motives, were of such satisfactory nature that he was given a testimonial letter in recognition of them, by the officer in charge, and also awarded a certificate "for his faithful services to the United States Government" by the chief of ordnance.

He served in the Fourth Liberty Loan Campaign at the same plant, and was instrumental in raising approximately \$65,000 among the government employees there.

The armistice having been declared and winter fast approaching, he sought again the balmy air of the South. Upon his former visit he had made many friends, and the esteem in which he was held by his fellow visitors is attested by his election as vice-president of the

Pennsylvania Society of St. Petersburg, Florida. There during the past winter he occupied his time in muscular exercises both of an athletic and of a practical nature, as he not only won prizes in the St. Petersburg Lawn Bowling and Sunshine Club contests, but also found so much real pleasure in the mechanical work of building a new home of his own, that spring had come again almost before he was aware. Convinced now that he had found relief in the climate of that locality, he decided to permanently locate in St. Petersburg, and with this plan in mind he and Mrs. Apple had returned to Philadelphia and were busily engaged with affairs pertaining to their removal in the early autumn, when the end came.

So stand his works more impressive than words. But I, his friend since early days, who knew so well that his ambition was limited by his strength of body, would like to say, in parting, these few words: Franklin Muhlenberg Apple was a sincere, genuine being; he could not, much less would he, dissemble; 'twas not his nature; he must be himself. And though his temperament throughout life seemed one of intense earnestness, it was because he ever had and showed the courage of his convictions to stand for things in that light of the right in which he saw them. He had a jolly side, as well; a cordial hand shake, a hearty laugh, a real, loyal interest in his friends, a tender heart, a generous disposition, and he was deeply appreciative.

One of the pleasing thoughts of his life was that he had made his own way from boyhood on.

He was a member of Meade Commandery, P. O. S. of A.; Linwood Assembly, No. 7, A. O. M. P.; and Eagle Council, No. 3, Fraternal Patriotic Americans. The funeral services were held on Friday evening, July 11. The interment was at Centerville, Pa., on the following day.

He is survived by Mrs. Apple, and his mother and three brothers.

CURRENT LITERATURE.

SCIENTIFIC AND TECHNICAL ABSTRACTS.

TEICHMANN'S HÆMATIN CRYSTALS.—Several methods have been proposed for simplifying this somewhat uncertain test. Bokarius finds that the best reagent is a mixture of glacial acetic acid (3 vols.) and saturated aqueous solution of sodium chloride (1 vol.). The suspected spot is moistened with three or four drops of the reagent, the liquid pressed out on to a slide, covered with a cover-slip, and heated to boiling; or a little of the substance may be scraped off on to a slide, the reagent added, and then covered and heated. No special precautions are necessary. (*Pharm. Weekbl.*, 55, 1502, through *The Pharm. Jour. and Pharm.*, April, 1919.)

DELICATE REACTION OF APOMORPHINE.—Gugliamelli's reagent affords an extremely delicate method of detecting apomorphine. The reagent is prepared by boiling 10 Gms. of sodium tungstate, 2 Gms. of sodium molybdate and 10 Gms. of pure arsenic acid with 70 Cc. of water for 1-2 hours under a reflux condenser, cooling, and adding water to 100 Cc. One or two drops of the alkaloidal solution and 1-2 Cc. of the reagent are shaken together for 3-5 minutes, and 5-10 Cc. of cold saturated solution of sodium carbonate added. The mixture develops an indigo-blue color. After again shaking, it is divided into two portions: one is shaken with amyl alcohol, which assumes a blue color, and the other with benzene, which is colored violet. (*Pharm. Centralb.* through *Schweiz. Apoth. Ztg.*, 57, 34, through *Pharm. Jour. and Pharm.*, April, 1919.)

IMPROVED METHOD FOR ESTIMATION OF SUGAR IN URINE AND BLOOD.—Cammidge advises that when a urine is expected to contain a low percentage of sugar, under 0.5 per cent., and with all blood and other fluids containing smaller amounts, the water to which the iodine solution is to be added should be boiled thoroughly to expel dissolved air and cooled immediately before the estimation is to be made. It is also advisable that the alkaline copper solution for sugar estimations with urine should be boiled in a small conical flask provided with a loose funnel as a stopper instead of in a beaker, and that the required amount of urine would be run into the boiling fluid from a pipette when the air dissolved in the solu-

tion and contained in the flask has been expelled. With blood, etc., the 7.5 Cc. of filtrate and 1 Cc. of sodium carbonate solution are boiled together in a similar way in a small conical flask fitted with a funnel-stopper, and the 1 Cc. of modified Benedict solution is added after they have boiled for a few seconds. The water used for diluting the iodine solution and for washing out the flask, etc., should have been recently boiled and cooled. With these additional precautions the method gives uniformly reliable figures, even with the small amount of sugar in normal urine and blood. (From *Lancet*, London, May, through *Journal American Medical Assoc.*, June 28, 1919.)

DILUTE FLUORESCEIN SOLUTIONS FOR THE DETERMINATION OF OZONE.—When air containing very minute traces of ozone is shaken with a 1:1,000,000,000 solution of fluorescein, the fluorescein is destroyed, and the color is discharged. If stronger solutions of the dye are used, only the fluorescence disappears: a yellow solution remains. Oxygen and other oxidizing agents do not act thus. The reaction is not only more sensitive for ozone than any of the hitherto published tests, but it is quantitative. Two molecules of ozone will discharge the fluorescence of one molecule of fluorescein. The trace of ozone detectable in this manner is, therefore, practically one third of the quantity of fluorescein acted on. Thus, 3 mils of the 1:1,000,000,000 solution is equivalent to practically 0.001 Mgm. of ozone. Since the fluorescence of 1 mil of the solution is distinctly visible, the degree of sensibility of the reaction is evident; it greatly exceeds that of the familiar starch and potassium iodide test paper. (L. Benoest, *Comptes rend.*, 1919, 168, 612; from *The Pharm. Jour. and Pharmacist*, June 28, 1919.)

MEDICAL AND PHARMACEUTICAL NOTES.

ISOTONIC EYE LOTIONS.—A solution of sodium chloride containing 14 Gms. in a litre is isotonic with the lachrymal secretion, and it has been proved that a solution of this strength is best borne by the corneo-conjunctival epithelium. A reduction must be made for the amount of any medicament that may be added, and this is ascertained in the usual way, viz., by dividing the molecular weight of sodium chloride by that of the medicament and multiplying by the

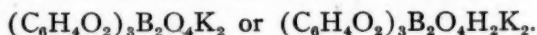
weight of the latter used. It must be remembered that one molecule of atropine sulphate is equivalent to two of sodium chloride. In the case of zinc sulphate and copper sulphate, sodium sulphate should be substituted for sodium chloride in the proportion of one of each of the sulphates for two of the chloride, and in the case of silver nitrate sodium nitrate should be substituted for the chloride. (*Jour. de Pharm. de Belgique*, 1, p. 201, through *The Pharm. Jour. and Pharmacist*, April 12, 1919.)

ISOTONIC HYPODERMIC INJECTIONS.—Although it has been shown that solutions of sodium chloride varying in strength from 0.6 to 2 per cent. can be injected hypodermically without apparent harm, it is desirable to make hypodermic solutions as nearly as possible isotonic with human blood serum. Hattie has calculated the percentage of sodium chloride that must be added to certain alkaloidal solutions in order to obtain this result, and has also determined by experience the quantity actually necessary; these figures show, as might be anticipated, certain differences. The following are the percentages of sodium chloride that must be added to the alkaloidal solution, as determined by actual experiment: *Morphine hydrochloride*, 1 per cent., 0.76; 2 per cent., 0.62; 3 per cent., 0.43; 1 per cent. + scopolamine hydrobromide, 0.02 per cent., 0.73. *Cocaine hydrochloride*, 1 per cent., 0.74; 6 per cent., 0; 0.75 per cent. + *adrenalin*, 0.005 per cent., 0.79. *Pilocarpine hydrochloride*, 3 per cent., 0.22. *Novocaine*, 1 per cent., 0.69; 2 per cent., 0.51; 1 per cent. + *adrenalin*, 0.005 per cent., 0.65; 2 per cent. + *adrenalin* 0.005 per cent., 0.47. *Eucaïne*, 1 per cent. + *adrenalin* 0.005 per cent., 0.67. *Atropine sulphate*, 1 per cent., 0.79. *Emetine hydrochloride*, 1 per cent., 0.82; 3 per cent., 0.66; 5 per cent., 0.45. *Arecoline hydrobromide*, 0.5 per cent., 0.80. (*Pharm. Weekbl.*, 55, 202, through *Pharm. Journ. and Pharm.*, April 12, 1919.)

THE FATE OF QUININE IN THE ORGANISM.—At most, 40 per cent. of the administered quinine is excreted in the urine and feces; the rest is not deposited in the organs and must, therefore, have been destroyed. After intravenous injection the amount in the blood sinks rapidly, then more slowly to zero but oral administration gives a more constant quinine level which is retained for about twenty-four hours. (H. Hartmann and L. Zila, *Arch. exp. Path. Pharm.*, 83, 221-234, 1918.)

J. F. C.

THE SALTS OF THE COMPLEX ACID: CATECHOL-BORIC ACID.—Two metallic and ammonium salts were prepared by shaking concentrated solutions of boric acid, catechol, and the respective hydroxide together in the molecular proportions 1:2:1. The three salts separated in the form of white leaflets. Similarly salts of organic bases were prepared and crystallized in needles. Ammonium salts; $(C_6H_4O_2)_3B_2O_4(NH_4)_2$; potassium salt;



The aniline, dimethylaniline, and p-chloraniline salts are described. (J. Böeseken (with A. Obreen and A. van Haeften), *Rec. trav. chim.*, 37, 184-194, 1918.)

J. F. C.

Note.—Considering their constitution, the above described salts ought to be of value in the treatment of certain skin diseases and deserve pharmacologic investigation. The number and efficacy of available remedies for cutaneous affections certainly could not prejudice us against new and promising drugs.

J. F. C.

QUISQUALIS INDICA, A SUBSTITUTE FOR SANTONIN.—Davenport finds that an ancient Chinese drug called Shih-chün-tzū, prepared from the seeds of *Quisqualis indica*, a satisfactory substitute for the more expensive santonin. (C. J. Davenport, *China Med. J.*, 32, 133 (1918); *C. A.*, 12, 2404, 1918.)

J. F. C.

GENTIANA ASCLEPIADEA AS A SUBSTITUTE FOR GENTIANA LUTEA.—*Gentiana asclepiadea* L. contains only half as much total bitter substances as *G. lutea*; it contains less gentiopicroin than earlier reported. If it is to be used as a substitute for *G. lutea* twice as much must be taken to produce the same effects. Gentiopicroin is not a cure for malaria. (O. Hoyer and R. Wasicky, *Pharm. Post*, 51, 145.)

J. F. C.

CASTOR OIL IN DERMATOLOGY.—The value of castor oil in dermatological practice is the subject of a communication by D. W. Montgomery (*Jour. Cutan. Dis.*, 1918, 36, 466; Sept.). He points

out that the oil is very heavy and resistant to changes in temperature; thus it withstands heating better than most oils, and only solidifies when a very low temperature is reached. Some features of importance to dermatologists are: (1) Its solubility in alcohol. Various medicated alcoholic lotions are frequently employed in the treatment of the scalp, and without the addition of a small quantity of oil the spirit would in a dry scalp dissolve out an excessive quantity of sebum. For this purpose castor oil is the oil which is usually chosen. (2) This oil also facilitates the solution of salicylic acid in oils and ointments, and thus renders it less irritating to the skin. The salicylic acid must first be mixed with a little hot castor oil, and then added to the other ingredients. (3) Lastly, the internal administration of the oil acts particularly on the ascending colon, and as many of the more active skin reactions are caused by poisons generated in the *caput coli*, a favorite localization for the anaërobic proteolytic bacteria, it thus produces a clean alimentary canal, which in turn conduces to a clean cutaneous surface. (*The Prescriber*, April, 1919.)

ARSENOBENZOL: VALUE OF ADRENALIN (*Paris méd.*, 1918, 8, 81; Feb. 2).—G. Milian thinks that adrenalin, if properly administered, has the power to prevent the disagreeable by-effects of arsenobenzol. He recommends the administration of 2 mg. (2 Cc. of a 1:1,000 solution) by mouth, one hour before an injection, repeating the dose five minutes before and one hour after the injection. When a patient is intolerant of arsenobenzol, he advises the administration of one Mg. by mouth, morning and evening, for four days. To prevent crisis, congestion of face, vomiting, etc., a subcutaneous injection of one Mg. and an intramuscular injection of 0.5 Mg. should be given five minutes prior to the arsenobenzol. (See also *Prescriber*, 1918, p. 78.) O. Nageli (*Corresp.-Bl. f. Schw. Aerzte*, 1917, 97, 1291, *per Endocrinology*, 1918, 2, 467; Oct.-Dec.) has reported a case in which adrenalin proved useful in combating a marked exanthema, which appeared after administration of a small dose of novarsenobenzol. A hypodermic dose of adrenalin (0.5 Cc. of solution for 0.3 Gm. of novarsenobenzol) given a few minutes before the arsenical injection, entirely prevented the cutaneous reaction.

B. B. Beeson (*Amer. Jour. Syph.*, 1919, 3, 129; Jan.) believes

that suprarenal insufficiency is the determining factor in the production of certain reactions following administration of arsenobenzol, and gives one Mg. intramuscularly ten minutes before the intravenous injection. In cases presenting marked nitroid crisis he does not hesitate to give double that amount.—T. S. (*The Prescriber*, May, 1919.)

ARSENOBENZOL: DECOMPOSITION OF SOLUTIONS (*Jour. Lab. and Clin. Med.*, 1919, 4, 181; Jan.).—J. B. Rieger says that arspenamin (American arsenobenzol or salvarsan) may contain an arseniuretted methyl compound, which decomposes with liberation of cacodyl-like substance. Some preparations give a garlic-like odour when dissolved, others develop it after standing in solution for some time. According to the amount of this that may have accumulated, along with other factors, a reaction may occur after injection, marked by fall in blood pressure, dyspnoea, and cyanosis. The author suggests that the use of methyl alcohol in its preparation should be avoided.—T. S. (*The Prescriber*, May, 1919.)

COPPER SULPHATE IN DERMATOLOGY.—Several formulæ for the use of the copper sulphate in various skin diseases are given by De Herain (*Presse méd.*, Oct. 31, 1918). For parasitic affections he recommends a strong ointment:

Copper sulphate	2
Zinc oxide	15
Lanolin	10
Soft paraffin	73

For milder complaints, such as acne, eczema, etc., a weak ointment containing only 0.2 per cent. of copper sulphate is prescribed. A dusting powder containing 0.2 (weak) or 2.0 (strong) per cent. of copper sulphate in talc may be used. In eczema he uses a lotion containing 0.01 per cent. of the salt dissolved in water, and after cure, to avoid relapses, continues with a solution 0.0025 per cent. (*The Prescriber*, May, 1919.)

CONSTIPATION.—J. Ritchie gives the following formula in an article on the subject (*Edin. Med. Jour.*, 1918, 21, 253; Nov.):

R Ext. cascar. sagrad. liq.....	3i
Paraff. liquid	3iiss
Ext. malti liq.	3iiss

M. Sig.—"A teaspoonful twice daily."

(*The Prescriber*, May, 1919.)

AN INCOMPATIBILITY.—The following prescription is incompatible:

R Magnes. calc.	gr. x
Salol.	gr. v
Acid. acetyl-salicyl.	gr. v

In the presence of moisture the magnesia will combine with the acetyl-salicylic acid and the salol will decompose into magnesium salicylate and phenol.—J. A. M. A. (*The Prescriber*, May, 1919.)

ACRIFLAVINE AS A WOUND DRESSING.—Many surgeons have expressed disappointment in the results gained from the use of a solution of 1:1,000 of acriflavine in normal saline as a dressing for wounds. Thomas E. A. Stowell (*B. M. J.*, 1919, 1, 244; Mar. 1) confirms these unsatisfactory results, but has found an emulsion, if properly prepared, most effective. His formula is as follows:

Acriflavine	0.1
Thymol	0.005
White wax	4.0
Liquid paraffin	76.0
Distilled water	20.0

Much skill and care are necessary in the preparation of this emulsion and the presentation of it in a sterile condition. He has used it for broken-down tuberculous glands, and for smearing over abdominal wounds after closure of the peritoneum where there has been suspicion of soiling; in this way drainage tubes and their resultant bad effects can be avoided.

The following paste is recommended by A. H. Tubby *et al.* as an application for gunshot wounds (*Lancet*, 1919, 1, 251; Feb. 15):

Bismuth carbonate	25
Paraffin (soft)	75
Acriflavine	0.5

Bismuth carbonate is, they find, less toxic than the subnitrate. (*The Prescriber*, May, 1919.)

BURNS: MAGNESIUM SULPHATE SOLUTION (*Jour. Pharmacol. band Exper. Therap.*, 1918, 12, 211; Nov.).—S. J. Meltzer, in course of a research on the action of magnesium sulphate on the

nervous system, found that a concentrated solution had a very favorable effect when applied to scalds and burns. Burns of the second degree are invariably arrested in their development when such a solution is applied early, while those of the third degree run a more favorable course under this treatment than under any other method. A solution of 25 per cent. strength, or even stronger, should be used. (From *The Prescriber*, May, 1919.)

WOUNDS: PARAFFIN TREATMENT (*British Med. Jour.*, 1919, 1, 243, Mar. 1).—E. F. Pratt confirms the advantages of paraffin in the treatment of burns, as testified to by Hull and by Haig. Several cases are described, which the author states were under observation from start to finish. The majority were cases of lacerated wounds: in some "ambrine" was used, in others No. 7 paraffin. The technique is carefully detailed, the essentials of which are cleansing with sterile water and spraying on the melted paraffin. One layer of gauze is put over this, then a cotton-wool pad and a bandage. This is retained for twenty-four hours; five dressings are usually sufficient to effect a cure. The author states that the objections to "bipp"—expense, toxicity, and interference with x-ray work—do not apply to paraffin. He is of the opinion that the active ingredient in "bipp" is the paraffin, iodoform never having given satisfaction in the past, while bismuth is inert.—P. A. H. (*The Prescriber*, May, 1919.)

IMPORTANCE OF FATS IN THE ASSIMILATION OF ALBUMINOIDS.—The author has previously shown that in the presence of fats the toxicity of albuminoids of food is diminished and their nutritive value is increased. When fat is present the minimum quantity of albumin necessary to maintain weight is only about one third that required when starch replaces fat. The amount of starch-albumin ration necessary to maintain weight contains about one fourth more calories than a similar fat-albumin ration. It has long been known that the administration of fats, and especially oil-containing seeds and milk, assists assimilation. This was formerly attributed to the stimulation of the digestive secretions by the fat. But this explanation is not sufficient. Fats intervene in the synthetic reconstruction of protein molecules. Maillard has shown that glycerin acts as a condensing agent with the amino-acids. The author finds

that it acts on the —CO—NH— linkage which occurs in the amino-acids of protein molecules. It also plays an important part through its alcohol function, being temporarily esterified and then saponified. The sugars, as polyatomic alcohols, probably play the same rôle. Probably, however, the importance of these properties of glycerin are secondary to those of the fatty acids. It is known that fatty acids may be formed from proteins, such as casein. Probably the reverse action occurs in the organism. Baudi has demonstrated that fatty and amino-acids combine, forming lipoproteids, in which the physical and chemical properties of the fats are completely masked. Thus it is probable that the fatty acids combine with the residues of the amino-acids derived from ingested albumins, and thus render them assimilable. This explains the favorable action of the fats on the digestion of albuminoids, and also the observed benefit which follows the administration of such fats as cod-liver oil in cases of malassimilation of nitrogenous foods, in diabetic or tubercular cachexia. (F. Maignon *Comptes rend.*, 1919, 168, 626, from *The Pharm. Journal and Pharmacist*, June 28, 1919.)

TRADE INTEREST.

EGYPTIAN OPIUM.—The area devoted to the cultivation of the opium poppy in Egypt has varied from 5,000 acres in 1833 to 1,500 acres in 1917. The plant cultivated is usually the variety with white petals, but the one with red flowers is also grown. The chief localities are the islands of Upper Egypt, which are covered by inundations. The seed is sown between the middle of October and the end of November, the harvest taking place in the following February and March. The inspissated juice is collected by knives moistened with saliva, transferred to shells, plates or poppy leaves, and, after about a fortnight's drying, made into cakes weighing from 15 to 250 Gm., which are then further dried. Cakes of 300 to 500 Gm., and sticks 20 to 30 Cc. long, wrapped in red paper, in imitation of Persian opium, are also found in the markets, but these are adulterated. The usual morphine content is 7 per cent., but 10 per cent. is not uncommon, and even 12 to 15 per cent. has been found. The cultivation is free, but trading in opium was prohibited except by certain authorized merchants. These authorizations were withdrawn in 1913. None is exported. It is, however, sold clandes-

tinely. (*Repert. de Pharm.*, 74, p. 345, through *Pharm. Jour. and Pharm.*, April 12, 1919.)

SEYCHELLES CINNAMON OIL.—In the course of a short article on the planting prospects in the Seychelles, a correspondent in the "Times Trade Supplement" states that a representative of one of the leading chemical firms in this country has recently returned from a visit to Mahe, the principal island of the Seychelles group, where he went to report on the possibilities of the local cinnamon-leaf oil industry. He has reported so favorably that, as a result, an important contract has been arranged between his firm and the Seychelles Rubber and Coconut Plantations Co., Ltd., for a regular supply of the oil extending over a number of years. Special kinds of still apparatus have been ordered and are being made in England for distilling purposes, and directly they are ready for use the oil will be produced on a large scale. As cinnamon-leaf oil enters into the composition of innumerable medicines and chemical mixtures, the future of this industry in the Seychelles is now assured. (From *The Chemist and Druggist*, June 28, 1919.)

CORRESPONDENCE.

WHO WILL BE THE LEADER?

TO THE EDITOR:

Your editorial appeal of June "Who will be the Leader?" is interesting. In the opinion of this writer there is a way to accomplish the end desired and at the same time help to place the art of pharmacy on a substantial professional base.

There can be no doubt in the mind of the thinking, observing druggist that the one safe way to reach the goal of consideration "a professional man" is to so arrange his activities that they be really helpful to the practitioner of medicine. There is no good reason why a druggist should not regard himself the helper or subordinate of the doctor, and there is no good reason why the doctor should not accept him as such in good faith and establish relations that would redound to the credit and advantage of both. The profession of medicine includes that of pharmacy and it is only a matter of convenience to the doctor to tolerate the pharmacist in the capacity of independent helper.

There is a section of pharmacy and materia medica in the American Medical Association. Why not make that section one of activity and importance? This writer can not see anything at all inconsistent in a union with or absorption of the American Pharmaceutical Association by the American Medical Association. Why not make the American Pharmaceutical Association the section of *Materia Medica and Pharmacy* of the American Medical Association?

This writer does not anticipate the many objections possible of advancement by druggists who will not agree with him and passes directly to an exhibition of advantage to the druggist. (1) Standing as a professional man; (2) elimination of undesirables; (3) attainment of rights, no matter where or how employed.

As members of a section of the American Medical Association, registered pharmacists will have the full weight of authority and the influence of that association back of everything demanded.

The final outcome would be (a) separation of mere commerce from the art of the pharmacist; (b) licensing of pharmacists by a national board under the control of the American Medical Association; (c) advancement of the practitioners of the art to a position in society commensurate with service rendered.

—*Old Time Pharmacist.*

NEWS ITEMS AND PERSONAL NOTES.

THE DEGREE OF DOCTOR OF PHARMACY CONFERRED ON DEAN LA WALL.—At the annual commencement of the University of Pittsburgh on June 13, the honorary degree of doctor of pharmacy was conferred upon Professor Charles H. La Wall, dean of the Philadelphia College of Pharmacy, and successor to the late Professor Jos. P. Remington as chairman of the Committee of Revision of the U. S. Pharmacopœia.

PENNSYLVANIA BOARD OF PHARMACY.—The Pennsylvania Board of Pharmacy announces that as a result of the examinations held on June 6 and 7, 121 out of the 170 applicants successfully passed the tests for registration as pharmacists, and that out of the 132 who took the examination for certificates as assistant pharmacists 68 passed the examination. The next examinations will be held in the

Williamsport High School on Friday and Saturday, August 29 and 30. Applications should be sent to L. L. Walton, Secretary, P. O. Box 265, Williamsport, Pa.

NATIONAL EXPOSITION OF CHEMICAL INDUSTRIES.—The Fifth National Exposition of Chemical Industries will be held this year in Chicago during the week of September 22. The exhibition will be in the Armory of the First Regiment. The committee having charge of this exposition is a very representative one composed of officials and chemists of many of the leading chemical industries and editors of the leading chemical journals, and is under the chairmanship of Dr. Charles H. Herty. The personnel of the committee assures in advance that this, the fifth exposition of this kind, will be another great success.

DR. HENRY KRAEMER, DEAN OF THE SCHOOL OF PHARMACY, UNIVERSITY OF MICHIGAN.—After thirty-three years of service as a teacher in the Pharmacy Department of the University of Michigan, Professor Alviso B. Stevens has retired from active service and removed to a country life in California. Since the illness and decease of Professor Schlotterbeck, Professor Stevens has filled the position of dean of this institutional department. The vacancy in the deanship caused by his resignation has been filled by the selection of Professor Kraemer as dean.

A MEMORIAL TABLET IN HONOR OF PROFESSOR WHITEHEAD.—At the annual commencement exercises held on June 2, the alumni of the school of pharmacy presented to the South Dakota College of Agriculture and Mechanic Arts, a bronze memorial tablet to honor the memory of the late Professor B. T. Whitehead whose decease occurred on April 1, 1917.

For a period of twenty-one years Professor Whitehead was head of the department of pharmacy of this state college and is said to have been a very thorough, painstaking instructor.

THE N. A. R. D. CONVENTION.—The National Association of Retail Druggists will hold its convention at Rochester, N. Y., September 7-13. The pre-convention arrangements as announced give every evidence that the "Flower City" is doing its best to provide

for the comfort and entertainment of the members and delegates who attend this gathering of retail druggists. The numerous industries, of more than local fame, located in Rochester that will invite the visitors to inspect their plants, the beauty of the many city parks, the display and exhibition, all the booths of which have been taken by exhibitors, the entertainments provided, are promises of enjoyment. In addition many questions of vital importance to the drug interests must be considered at this convention. Among these may be mentioned, the dispensing of liquors as medicines, the traffic in narcotics and its elimination, price maintenance, etc.

PHILADELPHIA-MADE GOODS EXHIBITION.—An exhibition of the industries of Philadelphia will be held in the First Regiment Armory, Broad and Callowhill Streets, during the week of September 8-13. No other city can boast of such a wide range of manufactures, and these have earned for the City of Brotherly Love the title of the "Workshop of the World." It will be no small task to gather under one roof in such an exhibition the thousands of products manufactured in the industrial plants of the city. The purpose of the exposition is to demonstrate the commanding position of Philadelphia as the "Market Place of America."

THE NATIONAL TUBERCULOSIS ASSOCIATION.—In a circular issued by this national organization it is stated that tuberculosis annually causes 150,000 deaths in the United States. To the best of present-day scientific knowledge, the disease is not inherited. Infection, it is now believed, generally takes place during childhood.

Examination of men for the National Army revealed that tuberculosis is far more prevalent in this country than even the best informed authorities were aware. The official records show that almost 100,000 men were rejected because they were suffering from unsuspected implantation of the germ.

Tuberculosis has increased enormously in Europe. As the food supply fell off tuberculosis increased.

The seriousness of the situation calls for redoubled efforts and a nation-wide educational campaign. Plans are being formulated for the carrying on of such an energetic campaign during the months of October, November and December. This association depends to a large extent for its support upon the sale of the Red Cross

Christmas Seal, consequently unusual efforts must be put into the sale this year.

Many druggists have been aiding this worthy enterprise by assisting in the sale of these stamps and every druggist in the country should be willing to contribute, if nothing more, the time and energy required to make his store a successful sub-station for the sale of these seals.

BURROUGHS WELLCOME & Co.'s SUCCESSFUL FIGHT AGAINST A JAPANESE FRAUD.—After six years of expensive litigation in the Japanese courts, Messrs. Burroughs Wellcome & Co., the well-known London manufacturers of medicinal products, have succeeded in suppressing a fraud that was most deliberately planned and audaciously executed. A Japanese imitation of "Hazeline Snow," one of their toilet products, was offered for sale in China.

In preparation for the fraud the Japanese vendors endeavored to legalize their preparation by registration in Japan of three trade-marks associated with the genuine product. These registrations covered an imitation of the general design of the Burroughs Wellcome Label, specific details including the title "Hazeline Snow," and a copy of the Burroughs Wellcome & Co. Chinese label including their well-known "Unicorn" device trade-mark.

With the aid of the local British consuls, the sale of the spurious article was forbidden in various parts of China by means of local proclamations. Burroughs Wellcome & Co. have carried their suit to a successful issue and the Japanese Patent Court has invalidated the three trade-marks and further awarded to them the costs of the trials.